



# Extra-Spatial OFFER!

**Best we ever make**

Biggest bargain in galaxy now in your hands! Get 9 full months of the finest science fiction writing at a special low introductory rate. Less than 1/100th of a solar credit—just \$7.50 U.S./Earth money with the coupon below brings you mind-expanding ideas and far-out adventures conceived by some of the most brilliant and imaginative authors alive today! Plus the unusual free gift described below to let you project the future for years and years from now. Just attach your check or money order to coupon and mail it to us to start your subscription and receive your gift. (Please allow 6-8 weeks for delivery.)



**YOURS  
FREE!**

This time-computer dial lets you look backward and forward in time! Were you born on a Tuesday? What day will your birthday fall on in 1997? Will Christmas be on a weekend in the year 2000? You'll have the answers at your fingertips with this perpetual calendar! Mail the coupon at right with your remittance today.

**BEST  
OFFER EVER!**

Use this coupon to take advantage of this special subscription + gift offer from GALAXY.

**9 ISSUES . . . \$7.50  
with FREE Perpetual Calendar.**

Name: \_\_\_\_\_

Street: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Mail With Remittance To:

**GALAXY MAGAZINE**

**350 Kennedy Drive**

**Hauppauge, New York 11787**

May 1977  
Vol. 38, No. 3

# Galaxy

SCIENCE FICTION  
MAGAZINE



Arnold E. Abramson, *Publisher*

Jay Tunick, *Circulation Director*  
L. C. Murphy, *Subscriptions Dept.*  
Elaine Will, *Assistant Editor*

J. E. Pournelle, Ph.D., *Science Editor*  
Theodore Sturgeon, *Consulting Editor*  
Spider Robinson, *Contributing Editor*

James Baen, *Editor*

## SERIAL

**THE DOSADI EXPERIMENT** (Part I of IV), Frank Herbert ..... 8

*The best way to learn about someone is to examine his behavior under stress. The same holds true for groups: You may, in fact, learn more than you ever wanted to know...*

## NOVELETTE

**THE WAY OF THE SWORD**, Dennis Schmidt ..... 66

*Continuing the adventures of Jerome as he pits himself against the mindless ferocity of the bodiless Mushin. Herein he becomes a Seeker who has found his Way.*

## SHORT STORIES

**CRASH SITE**, Peter Ambrose ..... 107

*True, the aliens had committed an act of planetary contamination, but considering that it happened as a result of a forced landing their oversight was a forgivable one. Besides, it would be a hundred million years before intelligent life would arise on Earth...*

**MARCONI, MATTIN, MAXWELL**, Charles Sheffield ..... 126

*Public benefactor, private hero: at last the inside story of the man who gave us the Mattin Links!*

**THE CHAINS OF FREEDOM**, Tom Purdom ..... 147

*Someday it will be possible to prevent acts of violence before they are even contemplated. What a horrible thought!*

## SPECIAL FEATURE

**THE CONSENTIENCE—And How It Got That Way,**

Frank Herbert

5

*The ins and outs of BuSab, Calebans, Wreaves, Gowachin and Humans; all of whom you will meet in Frank's great new novel, The Dosadi Experiment, beginning in this issue of Galaxy.*

## FEATURES

**SHOWCASE**, Freff ..... Inside-front cover

**SF CALENDAR** ..... 4

**FORUM**, Philip A. Schreffler ..... 62

**RAY GUN EVAPORATES MAINSTREAM—**  
*Return to the roots? Nonsense; we are the roots!*

**A STEP FARTHER OUT**, J.E. Pournelle ..... 95

*WHAT'S IT LIKE OUT THERE? asked The Editor. Here is what Jerry replied.*

**THE ALIEN VIEWPOINT**, Alter Ego (with Dick Geis) ..... 120  
*The readers have spoken.*

**BOOKSHELF**, Spider Robinson ..... 138

*Over one thousand sf books of one kind and another are published every year. If you want information on the 900 or so we can't review, you will have to subscribe to Locus. Spider tells you how.*

**DIRECTIONS** ..... 154

*Letters from Wolfe, Davis, Pournelle, Bellmore, Woosley, Kraft, Nance, Schneider, Button, Darche.*

Cover by Bonnie Dalzell, from

**THE DOSADI EXPERIMENT**

Interior illustrations by Dalzell, Fabian, Koho, Sternbach.

GALAXY, Incorporating Worlds of IF, is published monthly by UPD Publishing Corporation, a subsidiary of Universal Publishing & Distributing Corporation. Arnold E. Abramson, President. Main Offices: 720 White Plains Road, Scarsdale, N.Y. 10583. Editorial Office: PO Box 418, Planetarium Sta., New York, N.Y. 10024. Single copy: \$1.00. 12-issue subscription: \$12.00 in U.S., \$13.00 elsewhere.

Copyright © 1977 by UPD Publishing Corporation under International, Universal and Pan-American Copyright Conventions. All rights reserved. Second class postage paid at New York, N.Y. and additional mailing offices. The publishers assume no responsibility for unsolicited material. All stories printed in this magazine are fiction and any similarity between characters and actual persons is coincidental. Printed in U.S.A.



MAY 27-30. DISCLAVE 77. Sheraton Park Hotel, Washington DC. GoH: Joe Haldeman. Registration: \$3 until May 20th, \$5 after. For info write: Alexis Gilliland, 4030 8th Street South, Arlington, VA 22204.

MAY 27-30. NOCRESCON. Holiday Inn, Barrow's Island, LaCrosse, WI. GoH: Tom Reamy and Martha Beck. Membership: \$3.50. For info write: Mark Riley, 2646 15th Avenue South, Minneapolis, MN 55407.

MAY 28-30. ERRATICON. Hilton Inn, Houston, TX. GoH: Ben Bova. Registration: \$3 until April 1st, \$5 after. For info write: Clifton B. Davis, 2602 Cherry Lane, Pasadena, TX 77502.

JUNE 2-5. SF, HORROR & FANTASY WORLD EXPOSITION. Marriott Hotel, Tucson, AZ. Guests include Poul Anderson, Robert Bloch, Lin Carter, Roger Corman,

Harlan Ellison, Fred Pohl. Membership: \$10 payable to 1977 SFH & FWE. Box 4412, Tucson, AZ 85717. (602)297-5812. (602) 297-5812.

JULY 1-4. WESTERCON 30. Totem Park Residence, University of British Columbia. Vancouver, BC (dormitory facilities). GoH: Damon Knight. Fan GoH: Frank Denton. Special Guest: Kate Wilhelm. Membership: \$6 before March 15th. For info write: WESTERCON 30, Box 48701 STN Bentall, Vancouver, BC, Canada V7X 1A6.

SEPT 2-6. SUNCON. 35th World SF Convention. Hotel Fountainbleau, Miami Beach, FL. GoH: Jack Williamson. Fan GoH: Bob Madle. Toastmaster: Robert Silverberg. Membership: 1977 rates to be announced. Checks payable to: WORLDCON 35. For info write: WORLDCON 35, Box 3427, Cherry Hill, NJ 08002.

## THE CONSENTIENCY— And How It Got That Way

FRANK HERBERT



THIS ARTICLE is being written to dispel a myth which we who write know to exist because of the Johnny-one-note question we keep getting from so many readers. I will presently tell all about the origins of Whipping Star, Dosadi Experiment and other McKie stories. First, however, the question:

"Where do you get your ideas?"

I've conducted a small survey among fellow writers to explore this question. Here are a few sample discoveries:

Jack Vance gets his ideas from a Leprechaun he trapped with an arcane spell outside a pub in Shillelagh, Ireland.

Poul Anderson gets his ideas from a gross, dirty old man with a Dutch accent who drops by without warning, passes over a greasy table napkin covered with scribbles and says: "Here! Write about dis!"

Harlan Ellison gets his ideas in a plain brown wrapper from Schenectady, New York. No return address.

Larry Niven gets his ideas from words which appear mysteriously on the inside faces of his glasses.

Lester del Rey gets his ideas from messages written in invisible ink on the backs of wine labels

from Bordeaux. Not every label carries a message and he must, therefore, sample many bottles before getting the right one. Just incidentally, this has made him a wine expert.

As you can see, the origins are as varied as the people.

I get my ideas from different sources for different stories. For the McKie stories, the origin is a Tapisriot I attempted to use as firewood. He did, after all, appear to be a stubby brown log with limbs short enough to go into my fireplace. Seeing my intention, the Tapisriot proposed a bargain: Ideas in exchange for his life. He also explained that he was extremely low in British Thermal Units.

As those of you who've read the other McKie stories know, the Tapisriot communicated with me by a direct mental linkage—mind to mind. This feat naturally did not shock or surprise a science fiction writer. It does, however, explain those occasional times when friends have found me uncommunicative, twitching and trembling in a zombie-like snigger-like trance. This is a necessary physical condition for Tapisriot communication.

It should be obvious by now that I have retreated into amusement to escape that constant question about ideas. I'll say it plainly: Ideas are a dime a dozen and are never more than a mere beginning. In development of an idea is where you find the story.

Sample idea: Water runs uphill for five minutes in every twenty-four hours. What kind of a world would develop, and what technology would you find, in response to such a phenomenon? Go design a toilet for such a world.

Then there's the question of what causes such an oddity. (Harry Stubbs, be my guest.)

I invite you to play with this relatively simple idea for awhile before continuing. Just to give you a feeling for idea development.

Now: the McKie stories, no diversions into parody, just the straight quill. (Most writers use a straight quill which has some connection with a goose.)

Oddly, the McKie stories stemmed from ready John Adams, the revolutionary, the constitutionalist, the dogmatist among our founding fathers. He was a tight-lipped, tight-fisted lawyer who was at heart an aristocrat of the intellect. Adams, in contrast to Thomas Paine, believed that majority rule could lead to just as many errors as the most autocratic minority rule. Adams distrusted power no matter who exercised it.

Then, following a pattern I enjoy, I began taking out and examining some of my most dearly beloved assumptions:

That Law will always bring justice provided you perfect the Law.

That the speedy execution of new political concepts and social changes is really what we all need. (Delays are bad.)

That life should be made easier for those we choose to have govern us—they should be paid more, get all sorts of help, should never be frustrated or angered. (Red tape is evil.)

That government should be as centralized and as big as possible to override the mounting difficulties of a diverse, technological world. (Small is inefficient and ugly.)

Now, contrast the universe of Jorj X. McKie, Saboteur Extraordinaire, agent of the Bureau of Sabotage (BuSab):

With few exceptions, he can disrupt anyone or anything. His mandate is to protect the rights of private citizens by selectively slowing the workings of government and too-powerful industry (which tends to act like government, as witness the activities of present multinational corporations).

BuSab originated in a past where good-intentioned people eliminated red tape. Government slipped into high gear, moving faster and faster. Laws were passed within an hour of conception. New bureaus originated almost by whim, appropriations were spent almost as fast as they were earmarked.

BuSab functions to slow things down, to incite disputes between people and agencies. It exposes the temperamental types who cannot handle power, cannot control themselves or think under pressure. BuSab entertains the public by flamboyant obstructionism (behind which there is always at least a hint

of violence and viciousness to reflect the bureau's origin). It exposes a deeper reality by stirring up opposition between political factions, and in the bureau's own functionaries you find an outlet for troublemakers.

To keep down indiscriminate obstruction, some agencies are immune from sabotage all the time, others may be targets only under specific conditions (e.g. when they become too big, too powerful and begin to ride roughshod over individuals). Only BuSab is never immune from its own ministrations. You advance in BuSab through successful sabotage against superiors.

McKie's universe is peopled by various sentient beings who function to hold those *beloved assumptions* up to a crueler examination.

There are the Taprisiots, as above, an almost perfect means of communication, but they put you in peril when you employ them.

The PanSpechi, a five-gendered race which can mimic almost any other sentient form, but which often chooses to mimic Human form except for the eyes which remain insect-faceted. The five-unit base is called a crèche and has only one ego which passes periodically to a newly-prepared member of the crèche. They tempt you to think of them as Human, but their thoughts and actions can be dangerous to people who make that mistake.

There are the Calebans. You see them as the visible stars. Calebans provide the ConSentient universe of Jorj X. McKie with jumpdoors. Through a jumpdoor's portal you step from planet to planet instantaneously, no matter the intervening

distance. If a jumpdoor happens to close while you're in it, it cuts you into two neat (dead) pieces. It also opens the way to many new types of exploitation, not all of them benevolent. (Rapid transit doesn't solve all of our problems.)

We have Wreaves who carry the insect analogy a bit farther. They have two sets of mandibles ordinarily concealed in facial slits. One set is employed as we employ our hands. The other set is for fighting and is poison-tipped. They perambulate on limber pedal bifurcations. Wreaves form breeding triads which periodically exchange members, linking triad to triad in gigantic extended families. The poisoned apple here is that if you offend one Wreave you offend the extended family and the result is vendetta.

The ConSentientcy also contains Palenki, creatures whose shape is similar to the giant tortoise but with a single prehensile arm protruding from the shell.

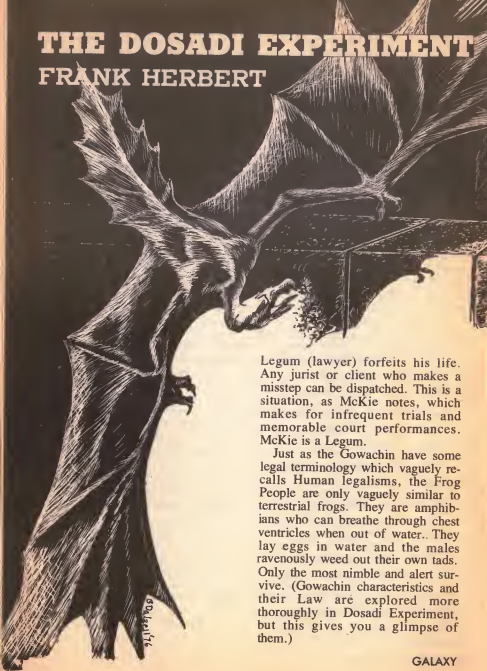
We have Preyings, Chithers and Soborips—all deliberately left vague for possible future use. We have Laclacs, supple and reserved creatures who employ tendrils as Humans employ arms and hands.

Then we have the Gowachin, the Frog People of Tandaloor whose concept of Law is the strangest in the ConSentientcy. To them, ritual (form) is the foundation upon which Law stands, but Law must change to meet each new condition. They do not trust even their own Law, believing that even the most highly-minded people will use legalisms for their own benefit. The Court-arena where they try their cases can be a scene of carnage. The losing



# THE DOSADI EXPERIMENT

FRANK HERBERT



Legum (lawyer) forfeits his life. Any jurist or client who makes a misstep can be dispatched. This is a situation, as McKie notes, which makes for infrequent trials and memorable court performances. McKie is a Legum.

Just as the Gowachin have some legal terminology which vaguely recalls Human legalisms, the Frog People are only vaguely similar to terrestrial frogs. They are amphibians who can breathe through chest ventricles when out of water. They lay eggs in water and the males ravenously weed out their own tads. Only the most nimble and alert survive. (Gowachin characteristics and their Law are explored more thoroughly in Dosadi Experiment, but this gives you a glimpse of them.)

GALAXY



As in Whipping Star where the focus was on the Calebans, Dosadi Experiment emphasizes the difficulties in establishing real communication between sentient species who perceive things in profoundly different ways. Where Whipping Star concentrated on Calebans and their S'eye Effects, Dosadi Experiment concentrates on Human-Gowachin relationships. The new story has characters from the previous one: (Napoleon) Bildoon, a PanSpechi, and chief of McKie's BuSab; the Caleban Fannie Mae, who is the visible star Thyone. . . and McKie.

There's an additional question of even greater moment, however. What do you find out about such people when you deliberately throw them into conditions of extremis? How's that for an idea?

THE DOSADI EXPERIMENT

---

For untold generations death and suffering had been their portion—now all that would change. . .

---

02766

\$1



**WORLDS  
OF  
IF**

MAY 1977

# Galaxy

Science Fiction

## Science Fiction

FRANK HERBERT THE DOSADI EXPERIMENT

## Charles Sheffield

**Tom Purdom**

J.E. Pournelle

SPIDER ROBINSON    RICHARD E. GEIS



900180 GMT-25-50291 A4 2 JAN78

5

90650

~~NORWALK~~

We have created a monster—enormously valuable and even useful, yet extremely dangerous. Our monster is both beautiful and terrifying. We do not dare use this monster to its full potential, but we cannot release our grasp upon it.

—Gowachin assessment of the Dosadi experiment

A BULLET WENT *spang!* against the window behind Keila Jedrik's desk, ricocheted and screamed off into the canyon street far below her office. Jedrik prided herself that she had not even flinched. The Elector's patrols would take care of the sniper. The patrols which swept the streets of Chu every morning would home on the sound of the shot. She held the casual hope that the sniper would escape back to the Rim Rabbable, but she recognized this hope as a weakness and dismissed it. There were concerns this morning far more important than an infiltrator from the Rim.

Jedrik reached one hand into the corner of early sunlight which illuminated the contact plates of her terminal in the Master Accountancy computer. Those flying fingers—she could almost disassociate herself from them. They darted like insects at the waiting keys. The terminal was a functional instrument, symbol of her status as a Senior Liaitor. It sat all alone in its desk slot—grey, green, gold, black, white and deadly. Its grey screen was almost precisely the tone of her desk top.

With careful precision, her fin-

gers played their rhythms on the keys. The screen produced yellow numbers, all weighted and averaged at her command—a thin strip of destiny with violence hidden in its golden shapes.

*Every angel carries a sword, she thought.*

But she did not really consider herself an angel or her weapon a sword. Her real weapon was an intellect hardened and sharpened by the terrible decisions her planet required. Emotions were a force to be diverted within the self or to be used against anyone who had failed to learn what Dosadi taught. She knew her own weakness and hid it carefully: she'd been taught by loving parents (who'd concealed their love behind exquisite cruelty) that Dosadi's decisions were indeed terrible.

Jedrik studied the numbers on her computer display, cleared the screen and made a new entry. As she did this, she knew she took sustenance from fifty of her planet's Human inhabitants. Many of those fifty would not long survive this callous jape. In truth, her fingers were weapons of death for those who failed this test. She felt no guilt about those she slew. The imminent arrival of one Jorj X. McKie dictated her actions, precipitated them.

When she thought about McKie, her basic feeling was one of satisfaction. She'd waited for McKie like a predator beside a burrow in the earth. His name and identifying keys had been given to her by her chauffeur, Havvy, hoping to increase his value to her. She'd taken the information and had made her usual investigation. Jedrik doubted

that any other person on Dosadi could have come up with the result her sources produced: Jorj X. McKie was an adult Human who could not possibly exist. No record of him could be found on all of Dosadi—not on the poisonous Rim, not in Chu's Warrens, not in any niche of the existing power structure. McKie did not exist, but he was due to arrive in Chu momentarily, smuggled into the city by a Gowachin temporarily under her control.

McKie was the precision element for which she had waited. He was not merely a possible key to the God Wall (not a bent and damaged key like Havvy) but a clean and certain key. She had never been prepared to break this lock with poor instruments. There would be one chance and only one chance; it required the best.

Thus fifty of Dosadi's Humans took their faceless places behind the numbers of her computer terminal. They were bait, expendable. Those who died by her act would not die immediately and forty-nine of them might never know they'd been deliberately submitted to early death by a deliberate act nor that she had done this thing. Some of them would be pushed back to the Rim's short and desperate existence. Others would waste away in the Warrens. And the deadly process would extend across sufficient time to dull any sense of immediacy until the moment of extinction. But they'd been slain by her fingers on the computer keys and she knew it. She cursed her parents for that unwanted awareness of the blood and sinew behind the numbers. Those

loving parents had taught her well. She might never see the bodies of the ones she slew, need not give another thought to all but one of the fifty; still she sensed them all behind her computer display . . . warm and pulsing.

Jedrik sighed.

The fifty were bleating animals staked out to lure a dangerous beast onto Dosadi's poisonous soil from outside the God Wall. Her fifty would create a fractional surplus here which would be gone, swallowed before anyone else realized their importance.

*Dosadi is a sick place, she thought. And not for the first time, she wondered: Is this really Hell?*

Many believed it.

*We are being punished.*

But no one knew what they'd done to deserve this punishment.

Jedrik leaned back, looked across her doorless office to the sound barrier and milky light of the hall. A strange Gowachin shambled past her doorway. He was a frog figure on some official errand, a packet of brown paper clutched in his knobby hands. His green skin shimmered as though he'd recently come from water.

The Gowachin reminded her of Bahrnk, he who was bringing McKie into her net. Bahrnk, who did her bidding because she controlled the substance to which he was addicted. More fool he to let himself become an addict to anything, even to living. One day soon Bahrnk would sell what he knew about her to the Elector's spies; by then it would be too late and the Elector would learn only what she wanted him to learn when she

wanted him to learn it. She'd chosen Bahrnk with the same care she'd used at her computer terminal, the same care which had made her wait for someone precisely like McKie. And Bahrnk was Gowachin. Once committed to a project, the Frog People were notorious for carrying out their orders in a precise way. They possessed an inbred sense of order but understood the limits of law.

As her gaze traversed the office, the sparse and functional efficiency of the space filled her with quiet amusement. This office presented an image of her which she had constructed with meticulous care. It pleased her that she would be leaving here soon never to return, like an insect shedding its skin. The office was four paces wide, eight long. Twelve black metal rotfiles lined the wall on her left, dark sentinels of her methodical ways. She had reset their locking codes and armed them to destroy their contents when the Elector's toads pried into them. The Elector's people would attribute this to outrage, a last angry sabotage. It would be some time before accumulating doubts would lead them to reassessment and to frustrated questions. Even then they might not suspect her hand in the elimination of fifty Humans. She, after all, was one of the fifty.

How pervasive were the seductions of Dosadi's power structure! How subtle! What she'd just done here introduced a flaw into the computer system which ruled the distribution of non-poisonous food in Dosadi's only city. Food—here was the real base of Dosadi's social pyramid, solid and ugly. The flaw

removed her from a puissant niche in that pyramid. She had worn the persona of Keila Jedrik, Liaitor for many years, long enough to learn enjoyment of the power system. Losing one valuable counter in Dosadi's endless survival game, she must now live and act only with the persona of Keila Jedrik, Warlord. This was an all-or-nothing move, a gambler's plunge. She felt the nakedness of it. But this gamble had begun long ago, far back in Dosadi's contrived history, when her ancestors had recognized the nature of this planet and had begun breeding and training for the individual who would take this plunge.

*I am that individual, she told herself. This is our moment.*

But had they truly assessed the problem correctly?

Jedrik's glance fell on the single window which looked out into the canyon street. Her own reflection stared back: a face too narrow, thin nose, eyes and mouth too large. Her hair could be an interesting black velvet helmet if she let it grow, but she kept it cropped short as a reminder that she was not a magnetic sex partner, that she must rely on her wits. That was the way she'd been bred and trained. Dosadi had taught her its cruellest lessons early. She'd grown tall while still in her teens, carrying more height in her body than in her legs so that she appeared even taller when seated. She looked down on most Gowachin and Human males in more ways than one. That was another gift (and lesson) from her loving parents and from their ancestors. There was no escaping this Dosadi lesson.

*What you love or value will be used against you.*

She leaned forward to hide her disquieting reflection, peered far down into the street. There, that was better. Her fellow Dosadis no longer were warm and pulsing people. They were reduced to distant movements, as impersonal as the dancing figures in her computer.

Traffic was light, she noted. Very few armored vehicles moved, no pedestrians. There'd been only that one shot at her window. She still entertained a faint hope that the sniper had escaped. More likely a patrol had caught the fool. The Rim Rabble persisted in testing Chu's defenses despite the boringly repetitive results. It was desperation. Snipers seldom waited until the day was deep and still and the patrols were scattered, those hours when even some among the most powerful ventured out.

*Symptoms, all symptoms.*

Rim sorties represented only one among many Dosadi symptoms which she'd taught herself to read in that precarious climb whose early stage came to climax in this room. It was not just a thought, but more a sense of familiar awareness to which she returned at oddly reflexive moments in her life.

*We have a disturbed relationship with our past which religion cannot explain. We are primitive in unexplainable ways, our lives woven of the familiar and the strange, the reasonable and the insane.*

It made some insane choices magnificently attractive.

*Have I made an insane choice?*

*No!*

The data lay clearly in her mind,

facts which she could not obliterate by turning away from them. Dosadi had been designed from a cosmic grab bag: "Give them one of these and one of these and one of these..."

It made for incompatible pairings.

The DemoPol with which Dosadi juggled its computer-monitored society didn't fit a world which used energy transmitted from a satellite in geosynchronous orbit. The DemoPol reeked of primitive ignorance, something from a society which had wandered too far down the path of legalisms—a law for everything and everything managed by law. The dogma that a God-inspired few had chosen Chu's river canyon in which to build a city insulated from this poisonous planet, and that only some twenty or so generations earlier, remained indigestible. And that energy satellite which hovered beneath the God Wall's barrier—that stank of a long and sophisticated evolution during which something as obviously flawed as the DemoPol would have been discarded.

It was a cosmic grab bag designed for a specific purpose which she only recently had begun to suspect.

*We did not evolve on this planet.*

The place was out of phase with both Gowachin and Human. Dosadi employed computer memories and physical files side by side for identical purposes. And the number of addictive substances to be found on Dosadi was outrageous. Yet this was played off against a religion so contrived, so gross in its demands for 'simple faith' that the two condi-



tions remained at constant war. The mystics died for their 'new insights' while the holders of 'simple faith' used control of the addictive substances to gain more and more power. The only real faith on Dosadi was that you survived by power and that you gained power by controlling what others required for survival. Their society understood the medicine of bacteria, virus and brain control, but these could not stamp out the Rim and Warren Underground where *jabua* faith healers cured their patients with the smoke of burning weeds.

And they could not stamp out (not yet) Keila Jedrik because she had seen what she had seen. Two by two the incompatible things ebbed and flowed around her, in the city of Chu and the surrounding Rim. It was the same in every case: a society which made use of one of these things could not naturally be a society which used the other.

*Not naturally.*

All around her, Jedrik sensed Chu with its indigestible polarities. They had only two species: Human and Gowachin. Why two? Were there no other species in this universe? Subtle hints in some of Dosadi's artifacts suggested an evolution for appendages other than the flexible fingers of Gowachin and Human.

Why only one city on all of Dosadi?

Dogma failed to answer.

The Rim hordes huddled close, always seeking a way into Chu's insulated purity. But they had a whole planet behind them. Granted it was a poisonous planet, but it had other rivers, other places of potential

sanctuary. The survival of both species argued for the building of more sanctuaries, many more than that pitiful hole which Gar and Tria thought they masterminded. No... Chu stood alone—almost twenty kilometers wide and forty long, built on hills and silted islands where the river slowed in its deep canyon. At last count, some eighty-nine million people lived here and three times that number eked a short life on the Rim—pressing, always pressing for a place in the poison-free city.

*Give us your precious bodies, you stupid Rimmers!*

They heard the message, knew its import and defied it.

What had the people of Dosadi done to be imprisoned here? What had their ancestors done? It was right to build a religion upon hate for such ancestors... provided such ancestors existed.

Jedrik leaned toward the window, peered upward at the God Wall, that milky translucence which imprisoned Dosadi, yet through which those such as this Jorj X. McKie could come at will. She hungered to see McKie in person, to confirm that he had not been contaminated as Havvy had been contaminated.

It was a McKie she required now. The transparently contrived nature of Dosadi told her that there must be a McKie. She saw herself as the huntress, McKie her natural prey. The false identity she'd built in this room was part of her bait. Now, in the season of McKie, the underlying religious cant by which Dosadi's powerful maintained their private illusions would crumble. She could already see the begin-

nings of that dissolution; soon, everyone would see it.

She took a deep breath. There was a purity in what was about to happen, a simplification. She was about to divest herself of one of her two lives, taking all of her awareness into the persona of that other Keila Jedrik which all of Dosadi would soon know. Her people had kept her secret well, hiding a fat and sleazy blonde person from their fellow Dosadis, exposing just enough of that one to 'X' that the powers beyond the God Wall might react in the proper design. She felt cleansed by the fact that the disguise of that other life had begun to lose its importance. The whole of her could begin to surface in that other place. And McKie had precipitated this metamorphosis. Jedrik's thoughts were clear and direct now:

*Come into my trap, McKie. You will take me higher than the palace apartments of the Council Halls.*

*Or into a deeper hell than any nightmare has imagined.*

\*\*\*

**How to start a war? Nurture your own latent hungers for power. Forget that only madmen pursue power for its own sake. Let such madmen gain power—even you. Let such madmen act behind their conventional masks of sanity. Whether their masks be fashioned from the delusions of defense or the theological aura of law, war will come.**

—Gowachin Aphorism

The odalarm awoke Jorj X. McKie with a whiff of lemon. For just an instant his mind played tricks on him. He thought he was on Tutalsee's gentle planetary ocean floating softly on his garlanded island. There were lemons on his floating island, banks of hibiscus and carpets of spicy alyssum. His bowered cottage lay in the path of perfumed breezes and the lemon...

Awareness came. He was not on Tutalsee with a loving companion; he was on a trained bedog in the armored efficiency of his Central Central apartment; he was back in the heart of the Bureau of Sabotage; he was back at work.

McKie shuddered.

A planet full of people could die today... or tomorrow.

It would happen unless someone solved this Dosadi mystery. Knowing the Gowachin as he did, McKie was convinced of it. The Gowachin were capable of cruel decisions, especially where their species' pride was at stake, or for reasons which other species might not understand. Bildoan assessed this crisis the same way. Not since the Caledan problem had such enormity crossed the ConSentient horizon.

But where was this endangered planet, this Dosadi?

After a night of sleep suppression, the briefings about Dosadi came back vividly as though part of his mind had remained at work sharpening the images. Two operatives, one Wreave and one Laclac had made the report. The two were reliable and resourceful. Their sources were excellent, although the information was sparse. The two also were bucking for promotion at

a time when Wreaves and Laclacs were hinting at discrimination against their species. The report required special scrutiny. No BuSab agent, regardless of species, was above some internal testing, a deception designed to weaken the Bureau and gain coup merits upon which to ride into the director's office.

However, BuSab was still directed by Bildoon, a PanSpechi in Human form, the fourth member of his crèche to carry that name. It had been obvious from Bildoon's first words that he believed the report.

"McKie, this thing could set Human and Gowachin at each others' throats."

It was an understandable idiom, although in point of fact you would go for the Gowachin abdomen to carry out the same threat. McKie already had acquainted himself with the report and, from internal evidence to which his long association with the Gowachin made him sensitive, he shared Bildoon's assessment. Seating himself in a grey chairdog across the desk from the director in the rather small windowless office Bildoon had lately preferred, McKie shifted the report from one hand to the other. Presently, recognizing his own nervous mannerism, he put the report on the desk. It was on coded memowire which played to trained senses when passed through the fingers or across other sensitive appendage.

"Why couldn't they pinpoint this Dosadi's location?" McKie asked.

"It's known only to a Caleban."

"Well, they'll..."

"The Calebans refuse to respond."

McKie stared across the desk at Bildoon. The polished surface reflected a second image of the BuSab director, an inverted image to match the upright one. McKie studied the reflection. Until you focused on Bildoon's faceted eyes (how like an insect's eyes they were) this PanSpechi appeared much like a Human male with dark hair and pleasant round face. Perhaps he'd put on more than the form when his flesh had been molded to Human shape. Bildoon's face displayed emotions which McKie read in Human terms. The director appeared angry.

McKie was troubled.

"Refused?"

"The Calebans don't deny that. Dosadi exists or that it's threatened. They refuse to discuss it."

"Then we're dealing with a Caleban contract and they're obeying the terms of that contract."

Recalling that conversation with Bildoon as he awakened in his apartment, McKie lay quietly thinking. Was Dosadi some new extension of the Caleban Question?

*It's right to fear what we don't understand.*

The Caleban mystery continually eluded ConSentient investigators. Just when you thought you had something pinned down, it slipped out of your grasp. Before the Calebans had come with their gift of jumpdoors, the ConSentientcy had been a relatively slow and understandable federation of the known sentient species. The universe had contained itself in a shared space of recognizable dimensions. The ConSentientcy of those days had grown in a way likened to expand-

ing bubbles. It had been linear.

Caleban jumpdoors had changed that with an explosive acceleration of every aspect of life which had made BuSab inevitable. Jumpdoors had been an immediately disruptive tool of power. They implied infinite usable dimensions. They implied many other things only faintly understood. Through a jumpdoor you stepped from a room on Tutalsee into a hallway here on Central Central. You walked through a jumpdoor here and found yourself in a garden on Paginui. The intervening 'normal space' might be measured in light years or parsecs, but the passage from one place to the other ignored such old concepts. And to this day, ConSentient investigators did not understand how the jumpdoors worked. Concepts such as 'relative space' didn't explain the phenomenon; they only added to the mystery.

McKie ground his teeth in frustration. Calebans inevitably did that to him. What good did it do to think of the Calebans as visible stars in the space his body occupied? He could look up from any planet where a jumpdoor deposited him and examine the night sky. Visible stars: ah, yes. Those are Calebans. What did that tell him?

There was a strongly defended theory that Calebans were but a more sophisticated aspect of the equally mysterious Taprisiots. The ConSentientcy had accepted and employed Taprisiots for thousands of standard years. A Taprisiot presented sentient form and size. They appeared to be short lengths of tree trunk cut off at top and bottom and with oddly protruding stub limbs.

When you touched them they were warm and resilient. They were fellow beings of the ConSentientcy. But just as the Calebans took your flesh across the parsecs, Taprisiots took your awareness across those same parsecs to merge you with another mind."

Taprisiots were a communications device.

But current theory said Taprisiots had been introduced to prepare the ConSentientcy for Calebans.

It was dangerous to think of Taprisiots as merely a convenient means of communications. Equally dangerous to think of Calebans as 'transportation facilitators.' [Look at the socially disruptive effect of jumpdoors! And when you employed a Taprisiot you had a constant reminder of danger: the communications trance which reduced you to a twitching zombie while you made your call. No...neither Calebans nor Taprisiots should be accepted without question.]

With the possible exception of the PanSpechi, no other species knew the first thing about Caleban and Taprisiot phenomena beyond their economic and personal value. They were indeed valuable, a fact reflected in the prices often paid for jumpdoor and long-call services. The PanSpechi denied that they could explain these things, but the PanSpechi were notoriously secretive. They were a species where each *individual* consisted of five bodies and only one dominant ego. The four reserves lay somewhere in a hidden crèche. Bildoon had come from such a crèche, accepting the communal ego from a crèche-mate whose subsequent fate could only

be imagined. PanSpechi refused to discuss internal crèche matters except to admit what was obvious on the surface, that they could grow a simulacrum body to mimic most of the known species in the ConSentiency.

McKie felt himself overcome by a momentary pang of xenophobia.

*We accept too damned many things on the explanations of people who could have good reasons for lying.*

Keeping his eyes closed, McKie sat up. His bedog rippled gently against his buttocks.

*Blast and damn the Calebans!*

He'd already done the obvious thing, called Fannie Mae, his 'personal friend' among the Calebans. The result had left him wondering if he really knew what Calebans meant by friendship.

"Information not permitted."

What kind of an answer was that? Especially when it was the only response he could get.

*Not permitted?*

The basic irritant was an old one: BuSab had no real way of applying its 'gentle ministrations' to the Calebans.

But Calebans had never been known to lie. They appeared painfully, explicitly honest. . . as far as they could be understood. But they obviously withheld information. Not permitted! Was it possible they'd let themselves be accessories to the destruction of a planet and that planet's entire population?

McKie had to admit it was possible.

They might do it out of ignorance or from some stricture of Calaban morality which the rest of the Con-

Sentiency did not share or understand. Or for some other reason which defied translation. They said they looked upon all life as 'precious nodes of existence.' But hints at peculiar exceptions remained. What was it Fannie Mae had once said?

"Dissolved well, this node."

How could you look at an individual life as a "node"?

If association with Calebans had taught him anything it was that understanding between species was tenuous at best and trying to understand a Calaban could drive you insane. In what medium did a node dissolve?

McKie sighed.

For now, this Dosadi report from the Wreave and Laclac agents had to be accepted on its own limited terms. Powerful people in the Gowachin Confederacy had sequestered Humans and Gowachin on an unlisted planet. Dosadi—location unknown, but the scene of unspecified experiments and tests on an imprisoned population. This much the agents insisted was true. If confirmed, it was a shameful act. The Frog People would know that, surely. Rather than let their shame be exposed, they could carry out the threat which the two agents reported: blast the captive planet out of existence, the population and all of the incriminating evidence with it.

McKie shuddered.

Dosadi, a planet of thinking creatures—*sentients*. If the Gowachin carried out their violent threat a living world would be reduced to blazing gasses and the hot plasma of atomic particles. Somewhere,

perhaps beyond the reach of other eyes, something would strike fire against the void. The tragedy would require less than a standard second. The most concise thought about such a catastrophe would require a longer time than the actual event.

But if it happened and the other ConSentient species received absolute proof that it had happened . . . ahhh, then the ConSentiency might well be shattered. Who would use a jumpdoor, suspecting that he might be shunted into some hideous experiment? Who would trust a neighbor if that neighbor's habits, language and body were different from his own? Yes. . . there would be more than Humans and Gowachin at each others' throats. Planetary extinction was the thing all the species feared most. Bildoone realized this. The threat to this mysterious Dosadi was a threat to all.

McKie could not shake the terrible image from his mind: an explosion, a bright blink stretching toward its own darkness. And if the ConSentiency learned of it . . . in that instant before their universe crumbled like a cliff dislodged in a lightning bolt, what excuses would be offered for the failure of reason to prevent such a thing?

*Reason?*

McKie shook his head, opened his eyes. It was useless to dwell on the worst prospects. He allowed the apartment's sleep gloom to invade his senses, absorbed the familiar presence of his surroundings.

*I'm a Saboteur Extraordinaire and I've a job to do.*

It helped to think of Dosadi that way. Solutions to problems often depended upon the will to succeed,

upon sharpened skills and multiple resources. BuSab owned those resources and those skills.

McKie stretched his arms high over his head, twisted his blocky torso. The bedog rippled with pleasure at his movements. He whistled softly and suffered the kindling of morning light as the apartment's window controls responded. A yawn stretched his mouth. He slid from the bedog and padded across to the window. The view stretched away beneath a sky like smudged blue paper. He stared out across the spires and rooftops of Central Central. Here lay the heart of the domine planet from which the Bureau of Sabotage spread its multifarious tentacles.

He blinked at the brightness, took a deep breath.

The Bureau. The omnipresent, omniscient, omnivorous Bureau. The one source of unmonitored governmental violence remaining in the ConSentiency. Here lay the norm against which sanity measured itself. Each choice made here demanded utmost delicacy. Their common enemy was that never-ending sentient yearning for absolutes. And each hour of every waking workday BuSab in all of its parts asked itself:

"What are we if we succumb to unbridled violence?"

The answer was there in deepest awareness:

"Then we are useless."

ConSentient government worked because, no matter how they defined it, the participants believed in a common justice personally achievable. The *Government* worked because BuSab sat at its

core like a terrible watchdog able to attack itself or any seat of power with a delicately balanced immunity. Government worked because there were places where it could not act without being chopped off. An appeal to BuSab made the individual as powerful as the ConSentency. It all came down to the cynical, self-effacing behavior of the carefully chosen BuSab tentacles.

*I don't feel much like a BuSab tentacle this morning,* McKie thought.

In his advancing years, he'd often experienced such mornings. He had a personal way of dealing with this mood: he buried himself in work.

McKie turned, crossed to the baffle into his bath where he turned his body over to the programmed ministrations of his morning toilet. The psyche-mirror on the bath's far wall reflected his body while it examined and adjusted to his internal conditions. His eyes told him he was still a squat, dark-skinned gnome of a Human with red hair, features so large they suggested an impossible kinship with the Frog People of the Gowachin. The mirror did not reflect his mind, considered by many to be the sharpest legal device in the ConSentency.

The Daily Schedule began playing to McKie as he emerged from the bath. The DS suited its tone to his movements and the combined analysis of his psychophysical condition.

"Good morning, ser," it fluted in a cheerful voice.

McKie, who could interpret the analysis of his mood from the DS tone, put down a flash of resentment. Of course he felt angry and

concerned. Who wouldn't under these circumstances?

"Good morning, you dumb inanimate object," he growled. He slipped into a supple armored pull-over, dull green and with the outward appearance of cloth.

The DS waited for his head to emerge.

"You wanted to be reminded, ser, that there is a full conference of the Bureau Directorate at nine local this morning, but the . . ."

"Of all the stupid. . ." McKie's interruption stopped the DS. He'd been meaning for some time to re-program the damned thing. No matter how carefully you set them, they always got out of phase. He didn't bother to bridle his mood, merely spoke the key words in full emotional spate: "Now you hear me, machine: Don't you ever again choose that buddy-buddy conversational pattern when I'm in this mood! I want nothing *less* than a reminder of that conference. When you list such a reminder don't even suggest remotely that it's my wish. Understood?"

"Your admonition recorded and new program instituted, ser." The DS adopted a brisk, matter-of-fact tone as it continued: "There is a new reason for alluding to the conference."

"Well, get on with it."

McKie pulled on a pair of green shorts and matching kilt of armored material identical to that of the pull-over.

The DS continued:

"The conference was alluded to, ser, as introduction to a new datum: you have been asked not to attend."

McKie, bending to fit his feet

into self-powered racing boots, hesitated, then:

"But they're still going to have a showdown meeting with all the Gowachin in the Bureau?"

"No mention of that, ser. The message was that you are to depart immediately this morning on the field assignment which was discussed with you. Code Geevee was invoked. An unspecified Gowachin Phylum has asked that you proceed at once to their home planet. That would be Tandaloor: You are to consult there on a problem of a legal nature."

McKie finished fitting the boots, straightened. He could feel all of his ninety-plus years as though there'd been no geriatric intervention. Geevee invoked a billion kinds of hell. It put him on his own with but one shopside backup facility: a Taprisiot monitor. He'd have his own Taprisiot link-sitting safely here on CC while he went out and risked his vulnerable flesh. The Taprisiot served only one function: to note his death and record every aspect of his final moments—every thought, every memory. This would be part of the next agent's briefing. And the next agent would get his own Taprisiot monitor etcetera, etcetera, etcetera. . . BuSab was notorious for gnawing away at its problems. The Bureau never gave up. But the astronomical cost of such a Taprisiot monitor left the operative so gifted with only one conclusion. Odds were not in his favor. There'd be no accolades, no cemetery rites for a dead hero . . . probably not even the physical substance of a hero for private grieving.

McKie felt less and less heroic by the minute.

Heroism was for fools and BuSab agents were not employed for their foolishness. He saw the reasoning, though. He was the best qualified non-Gowachin for dealing with the Gowachin. He looked at the nearest DS voder.

"Was it suggested that someone doesn't want me at that conference?"

"There was no such speculation."

"Who gave you this message?"

"Bildoan. Verified voiceprint. He asked that your sleep not be interrupted, that the message be given to you on awakening."

"Did he say he'd call back or ask me to call him?"

"No."

"Did Bildoan mention Dosadi?"

"He said the Dosadi problem is unchanged. Dosadi is not in my banks, ser. Did you wish me to seek more info. . ."

"Not I'm to leave immediately?"

"Bildoan said your orders have been cut. In relationship to Dosadi, he said, and these are his exact words: 'The worst is probable. They have all the motivation required.'"

McKie ruminated aloud: "All the motivation . . . selfish interest or fear. . ."

"Ser, are you inquiring of. . ."

"No, you stupid machine! I'm thinking out loud. People do that. We have to sort things out in our heads, put a proper evaluation on available data."

"You do it with extreme inefficiency."

This startled McKie into a flash of anger. "But this job takes a sen-



tient, a person, not a machine! Only a person can make the responsible decision. And I'm the only agent who understands them sufficiently."

"Why not set a Gowachin agent to ferret out their. . ."

"So you've worked it out?"

"It was not difficult, even for a machine. Sufficient clues were provided. And since you'll get a Taprisiot monitor, the project involves danger to your person. While I do not have specifics about Dosadi, the clear inference is that the Gowachin have engaged in questionable activity. Let me remind McKie that the Gowachin do not admit guilt easily. Very few non-Gowachin are considered by them to be worthy of their company and confidence. They do not like to feel dependent upon non-Gowachin. In fact, no Gowachin enjoys any dependent condition, not even when dependent upon another Gowachin. This is at the root of their law."

This was a more emotionally-loaded conversation than McKie had ever before heard from his DS. Perhaps his constant refusal to accept the thing on a personal anthropomorphic basis had forced it into this adaptation. He suddenly felt almost shy with the DS. What it had said was pertinent, and more than that, vitally important in a particular way: chosen to help him to the extent the DS was capable. In McKie's thoughts, the DS was suddenly transformed into a valued confidante.

As though it knew his thoughts, the DS said:

"I'm still a machine. You are inefficient, but as you have correctly stated you have ways of arriving at

accuracy which machines do not understand. We can only . . . guess, and we are not really programmed to guess unless specifically ordered to do so on a given occasion. Trust yourself."

"But you'd rather I were not killed?"

"That is my program."

"Do you have any more helpful suggestions?"

"You would be advised to waste as little time as possible here. There was a tone of urgency in Bildoan's voice."

McKie stared at the nearest voder. Urgency in Bildoan's voice? Even under the most urgent necessity, Bildoan had never sounded urgent to McKie. Certainly, Dosadi could be an urgent matter, but. . . Why should that sound a sour note?

"Are you sure he sounded urgent?"

"He spoke rapidly and with obvious tension."

"Truthful?"

"The tone-spikes lead to that conclusion."

McKie shook his head. Something about Bildoan's behavior in this matter didn't ring true, but whatever it was it escaped the sophisticated reading circuits of the DS.

*And my circuits, too.*

Still troubled, McKie ordered the DS to assemble a full travel kit and to read out the rest of the schedule. He moved to the tool cupboard beside his bath baffle as the DS began reeling off the schedule.

His day was to start with the Taprisiot appointment. He listened with only part of his attention, tak-

ing care to check the toolkit as the DS assembled it. There were plastipiks. He handled them gently as they deserved. A selection of stims followed. He rejected these, counting on the implanted sense/muscle amplifiers which increased the capabilities of senior BuSab agents. Explosives in various denominations went into the kit—raygans, penetrates. Very careful with these dangerous items. He accepted multilenses, a wad of unflinsh with matching mediskin, solvos, miniputer. The DS extruded a life-monitor bead for the Taprisiot linkage. He swallowed it to give the bead time to anchor in his stomach before the Taprisiot appointment. A holoscan and matching blanks were accepted, as were raptors and comparators. He rejected the adapter for simulation of target identities. It was doubtful he'd have time or facilities for such sophisticated refinements. Better to trust his own instincts.

Presently, he sealed the kit in its wallet, concealed the wallet in a pocket. The DS had gone rambling on:

"... and you'll arrive on Tandaloor at a place called Holy Running. The time there will be early afternoon."

*Holy Running!*

McKie riveted his attention to this datum. A Gowachin saying skittered through his mind: *'The Law is a blind guide, a pot of bitter water. The Law is a deadly contest which can change as waves change.'*

No doubt of what had led his thoughts into that path. Holy Running was the place of Gowachin myth. Here, so their stories said,

lived Mrreg, the monster who had set the immutable pattern of Gowachin character.

And now, McKie suspected he knew which Gowachin Phylum had summoned him. It could be any one of five Phyla at Holy Running but he felt certain it'd be the worst of those five—the most unpredictable, the most powerful, the most feared. Where else could a thing such as Dosadi originate?

McKie addressed his DS:

"Send in my breakfast. Please record that the condemned person ate a hearty breakfast."

The DS, programmed to recognize rhetoric for which there was no competent response, remained silent while complying.

\*\*\*

**All sentient beings are created unequal. The best society provides each with an equal opportunity to float at his own level.**

**—The Gowachin Primary**

By mid-afternoon Jedrik saw that her gambit had been accepted. A surplus of fifty Humans was just the right size to be taken by a greedy underling. Whoever it was would see the possibilities of continuing—ten here, thirty there. . . and because of the way she'd introduced this *flaw*, the next people discarded would be mostly Humans, but with just enough Gowachin to smack of retaliation.

It'd been difficult carrying out her daily routine knowing what

she'd set in motion. It was all very well to accept the fact that you were going into danger. When the actual moment arrived it always had a different character. As the subtle and not-so-subtle evidence of success accumulated, she felt the crazy force of it rolling over her. Now was the time to think about her true power base, the troops who would obey her slightest hint, the tight communications linkage with the Rim, the carefully selected and trained lieutenants. Now was the time to think about McKie slipping so smoothly into her trap. She concealed elation behind a facade of anger. They'd expect her to be angry.

The evidence began with a slowed response at her computer terminal. Someone was monitoring. Whoever had taken her bait wanted to be certain she was expendable. Wouldn't want to eliminate someone and then discover that the eliminated someone was essential to the power structure. She'd made damned sure to cut a wide swath into a region which could be made non-essential.

The micro-second delay from the monitoring triggered a disconnect on her tell-tale circuit, removing the evidence of her preparations before anyone could find it. She didn't think there'd be that much caution in anyone who'd accept this gambit but unnecessary chances weren't part of her plan. She removed the tell-tale timer and locked it away in one of the filing cabinets, there to be destroyed with the other evidence when the Elector's toads came prying. The lonely blue flash would be confined by metal walls

which would heat to a nice blood red before lapsing into slag and ashes.

In the next stage, people averted their faces as they walked past her office doorway.

*Ahhh, the accuracy of the rumor-trail.*

The avoidance came so naturally: a glance at a companion on the other side, concentration on material in one's hands, a brisk stride with gaze fixed on the corridor's ends. Important business up there. No time to stop and chat with Keila Jedrik today.

*By the Veil of Heaven! They were so transparent!*

A Gowachin walked by examining the corridor's blank opposite wall. She knew that Gowachin: one of the Elector's spies. What would he tell Elector Broey today? Jedrik glared at the Gowachin in secret glee. By nightfall, Broey would know who'd picked up her gambit but it was too small a bite to arouse his avarice. He'd merely log the information for possible future use. It was too early for him to suspect a sacrifice move.

A Human male followed the Gowachin. He was intent on the adjustment of his neckline and that, of course, precluded a glance at a Senior Liaitor in her office. His name was Drayjo. Only yesterday, Drayjo had made courting gestures, bending toward her over this very desk to reveal the muscles under his light grey coveralls. What did it matter that Drayjo no longer saw her as a useful conquest. His face was a wooden door, closed, locked, hiding nothing.

*Avert your face, you clog!*

When the red light glowed on her terminal screen, it came as anticlimax. Confirmation that her gambit had been accepted by someone who would shortly regret it. Communication flowed across the screen:

"Opp SD22240268523ZX."

*Good old ZX!*

Bad news always developed its own coded idiom. She read what followed, anticipating every nuance:

"The Mandate of God having been consulted, the following supernumerary functions are hereby reduced. If your position screen carries your job title with an underline you are included in the reduction.

*"Senior Liaitor."*

Jedrik clenched her fists in simulated anger while she glared at the underlined words. It was done. Opp-Out, the good old Double-O. Through its pliable arm, the DemoPol, the Sacred Congregation of the Heavenly Veil had struck again.

None of her elation showed through her Dosadi controls. Someone able to see beyond immediate gain would note presently that only Humans had received this particular good old Double-O. Not one Gowachin there. Whoever made that observation would come sniffing down the trail she'd deliberately left. Evidence would accumulate. She thought she knew who would read that accumulated evidence for Broey. It would be Tria. It was not yet time for Tria to entertain doubts. Broey would hear what Jedrik wanted him to hear. The Dosadi power game would be played by Jedrik's rules then and by the time others learned the rules it'd be too late.

She counted on the factor which

Broey labeled 'instability of the masses.' Religious twaddle! Dosadi's masses were unstable only in particular ways. Fit a conscious justification to their innermost unconscious demands and they became a predictable system which would leap into predictable actions—especially with a psychotic populace whose innermost demands could never be faced consciously by the individuals. Such a populace remained highly useful to the initiates. That was why they maintained the DemoPol with its mandate-of-God sample. The tools of government were not difficult to understand. All you needed was a pathway into the system, a place where what you did touched a new reality.

Broey would think himself the target of her action. More fool he.

Jedrik pushed back her chair, stood and strode to the window hardly daring to think about where her actions would truly be felt. She saw that the sniper's bullet hadn't even left a mark on the glass. These new windows were far superior to the old ones which had taken on dull streaks and scratches after only a few years.

She stared down at the light on the river, carefully preserving this moment, prolonging it.

*I won't look up yet, not yet.*

Whoever had accepted her gambit would be watching her now. Too late! Too late!

A streak of orange-yellow meandered in the river current: contaminants from the Warren factories . . . poisons. Presently, not looking too high yet, she lifted her gaze to the silvered layers of the Council

she'd set in motion. It was all very well to accept the fact that you were going into danger. When the actual moment arrived it always had a different character. As the subtle and not-so-subtle evidence of success accumulated, she felt the crazy force of it rolling over her. Now was the time to think about her true power base, the troops who would obey her slightest hint, the tight communications linkage with the Rim, the carefully selected and trained lieutenants. Now was the time to think about McKie slipping so smoothly into her trap. She concealed elation behind a facade of anger. They'd expect her to be angry.

The evidence began with a slowed response at her computer terminal. Someone was monitoring. Whoever had taken her bait wanted to be certain she was expendable. Wouldn't want to eliminate someone and then discover that the eliminated someone was essential to the power structure. She'd made damned sure to cut a wide swath into a region which could be made non-essential.

The micro-second delay from the monitoring triggered a disconnect on her tell-tale circuit, removing the evidence of her preparations before anyone could find it. She didn't think there'd be that much caution in anyone who'd accept this gambit but unnecessary chances weren't part of her plan. She removed the tell-tale timer and locked it away in one of the filing cabinets, there to be destroyed with the other evidence when the Elector's toads came prying. The lonely blue flash would be confined by metal walls

which would heat to a nice blood red before lapsing into slag and ashes.

In the next stage, people averted their faces as they walked past her office doorway.

*Ahhh, the accuracy of the rumor-trail.*

The avoidance came so naturally: a glance at a companion on the other side, concentration on material in one's hands, a brisk stride with gaze fixed on the corridor's ends. Important business up there. No time to stop and chat with Keila Jedrik today.

*By the Veil of Heaven! They were so transparent!*

A Gowachin walked by examining the corridor's blank opposite wall. She knew that Gowachin: one of the Elector's spies. What would he tell Elector Broey today? Jedrik glared at the Gowachin in secret glee. By nightfall, Broey would know who'd picked up her gambit but it was too small a bite to arouse his avarice. He'd merely log the information for possible future use. It was too early for him to suspect a sacrifice move.

A Human male followed the Gowachin. He was intent on the adjustment of his neckline and that, of course, precluded a glance at a Senior Liaitor in her office. His name was Drayjo. Only yesterday, Drayjo had made courting gestures, bending toward her over this very desk to reveal the muscles under his light grey coveralls. What did it matter that Drayjo no longer saw her as a useful conquest. His face was a wooden door, closed, locked, hiding nothing.

*Avert your face, you clog!*

When the red light glowed on her terminal screen, it came as anti-climax. Confirmation that her gambit had been accepted by someone who would shortly regret it. Communication flowed across the screen:

"Opp SD22240268523ZX."

*Good old ZX!*

Bad news always developed its own coded idiom. She read what followed, anticipating every nuance:

"The Mandate of God having been consulted, the following supernumerary functions are hereby reduced. If your position screen carries your job title with an underline you are included in the reduction.

*"Senior Liaitor."*

Jedrik clenched her fists in simulated anger while she glared at the underlined words. It was done. Opp-Out, the good old Double-O. Through its pliable arm, the DemoPol, the Sacred Congregation of the Heavenly Veil had struck again.

None of her elation showed through her Dosadi controls. Someone able to see beyond immediate gain would note presently that only Humans had received this particular good old Double-O. Not one Gowachin there. Whoever made that observation would come sniffing down the trail she'd deliberately left. Evidence would accumulate. She thought she knew who would read that accumulated evidence for Broey. It would be Tria. It was not yet time for Tria to entertain doubts. Broey would hear what Jedrik wanted him to hear. The Dosadi power game would be played by Jedrik's rules then and by the time others learned the rules it'd be too late.

She counted on the factor which

Broey labeled 'instability of the masses.' Religious twaddle! Dosadi's masses were unstable only in particular ways. Fit a conscious justification to their innermost unconscious demands and they became a predictable system which would leap into predictable actions—especially with a psychotic populace whose innermost demands could never be faced consciously by the individuals. Such a populace remained highly useful to the initiates. That was why they maintained the DemoPol with its mandate-of-God sample. The tools of government were not difficult to understand. All you needed was a pathway into the system, a place where what you did touched a new reality.

Broey would think himself the target of her action. More fool he.

Jedrik pushed back her chair, stood and strode to the window hardly daring to think about where her actions would truly be felt. She saw that the sniper's bullet hadn't even left a mark on the glass. These new windows were far superior to the old ones which had taken on dull streaks and scratches after only a few years.

She stared down at the light on the river, carefully preserving this moment, prolonging it.

*I won't look up yet, not yet.*

Whoever had accepted her gambit would be watching her now. Too late! Too late!

A streak of orange-yellow meandered in the river current: contaminants from the Warren factories . . . poisons. Presently, not looking too high yet, she lifted her gaze to the silvered layers of the Council

Hills, to the fluting inverted-stalagmites of the high apartments to which the denizens of Chu aspired in their futile dreams. Sunlight gleamed from the power bulbs which adorned the apartments on the hills. The great crushing wheel of government had its hub on those hills, but the impetus for that wheel had originated elsewhere.

Now, having prolonged the moment while anticipation enriched it, Jedrik lifted her gaze to that region above the Council Hills, to the sparkling streamers and grey glowing of the barrier veil, to the God Wall which englobed her planet in its impenetrable shell. The Veil of Heaven looked the way it always looked in this light. There was no apparent change. But she *knew* what she had done.

Jedrik was aware of subtle instruments which revealed other suns and galaxies beyond the God Wall, places where other planets must exist, but her people had only this one planet. That barrier up there and whoever had created it insured this isolation. Her eyes blurred with quick tears which she wiped away with real anger at herself. Let Broey and his toads believe themselves the only objects of her anger. She would carve a way beyond them through that deadly veil. No one on Dosadi would ever again cower beneath the hidden powers who lived in the sky!

She lowered her gaze to the carpet of factories and warrens. Some of the defensive walls were faintly visible in the layers of smoke which blanketed the teeming scramble of life upon which the city fed. The smoke erased fine details to separate

the apartment hills from the earth. Above the smoke, the fluted buildings became more a part of sky than of ground. Even the ledged set-back walls of the canyon within which Chu created its sanctuary were no longer attached to the ground, but floated separate from this place where people could survive to a riper maturity on Dosadi. The smoke dulled the greens of ledges and Rim where the Rabble waged a losing battle for survival. Twenty years was old out there. In that pressure, they fought for a chance to enter Chu's protective confines by any means available, even welcoming the opportunity to eat garbage from which the poisons of this planet had been removed. The worst of Chu was better than their best, which only proved that the conditions of hell were relative.

*I seek escape through the God Wall for the same reasons the Rabble seeks entrance to Chu.*

In Jedrik's mind lay a graph with an undulating line. It combined many influences: Chu's precious food cycle and economics, Rim incursions, spots which flowed across their veiled sun, subtle planetary movements, atmospheric electricity, gravitational flows, magnetronic fluctuations, the dance of numbers in the Liaitor banks, the seemingly random play of cosmic rays, the shifting colors in the God Wall . . . and mysterious jolts to the entire system which commanded her most concentrated attention. There could be only one source for such jolts: a manipulative intelligence outside the planetary influence of Dosadi. She called that force 'X' but she had broken 'X'

into components. One component was a simulation model of Elector Broey which she carried firmly in her head, not needing any of the mechanical devices for reading such things. 'X' and all of its components were as real as anything else on the chart in her mind. By their interplay she read them.

Jedrik addressed herself silently to 'X':

*By your actions I know you and you are vulnerable.*

Despite all of the Sacred Congregation's prattle, Jedrik and her people knew the God Wall had been put there for a specific purpose. It was the purpose which pressed living flesh into Chu from the Rim. It was the purpose which jammed too many people into too little space while it frustrated all attempts to spread into any other potential sanctuary. It was the purpose which created people who possessed that terrifying mental template which could trade flesh for flesh . . . Gowachin or Human. Many clues revealed themselves around her and came through that radiance in the sky, but she refused as yet to make a coherent whole out of that purpose. Not yet.

*I need this McKie!*

With a Jedrik-maintained tenacity, her people knew that the regions beyond the barrier veil were not heaven or hell. Dosadi was hell, but it was a *created* hell.

*We will know soon . . . soon.*

This moment had been almost nine Dosadi generations in preparation: the careful breeding of a specific individual who carried in one body the talents required for this assault on 'X,' the exquisitely

detailed education of that weapon-in-fleshly-form . . . and there'd been all the rest of it—whispers, unremarked observations in clandestine leaflets, help for people who held particular ideas and elimination of others whose concepts obstructed, the building of a Rim-Warren communications network, the slow and secret assembly of a military force to match the others which balanced themselves at the peaks of Dosadi power. . . All of these things and much more had prepared the way for those numbers introduced into her computer terminal. The ones who appeared to rule Dosadi and the ones behind them who moved the powerful of Dosadi-like puppets—those ones could be read in many ways and this time the rulers, both visible and hidden, had made one calculation while Jedrik had made another calculation.

Again, she looked up at the God Wall.

*You out there! Keila Jedrik knows you're there. And you can be baited, you can be trapped. You are slow and stupid. And you think I don't know how to use your McKie. Ahhh, sky demons, McKie will open your veil for me. My life's a wrath and you're the objects of my wrath. I dare what you would not.*

Nothing of this revealed itself on her face nor in any movement of her body.

\*\*\*

**Arm yourself when the Frog God smiles.**

—Gowachin Admonition



McKie began speaking as he entered the Phylum sanctus:

"I'm Jorj X. McKie of the Bureau of Sabotage."

Name and primary allegiance, that was the drill. If he'd been a Gowachin, he'd have named his Phylum or would've favored the room with a long blink to reveal the identifying Phylum tatoo on his eyelids. As a non-Gowachin, he didn't need a tatoo.

He held his right hand extended in the Gowachin peace sign, palm down and fingers wide to show that he held no weapon there and had not extended his claws. Even as he entered, he smiled, knowing the effect this would have on any Gowachin here. In a rare mood of candor, one of his old Gowachin teachers had once explained the effect of a smiling McKie.

"We feel our bones age. It is a very uncomfortable experience."

McKie understood the reason for this. He possessed a thick, muscular body—a swimmer's body with light mahogany skin. He walked with a swimmer's rolling gait. There were Polynesians in his Old Terran ancestry, this much was known in the Family Annals. Wide lips and a flat nose dominated his face; the eyes were large and placidly brown. There was a final genetic ornamentation to confound the Gowachin: red hair. He was the Human equivalent of the greenstone sculpture found in every Phylum house here on Tandaloor. McKie possessed the face and body of the Frog God, the Giver of Law.

As his old teacher had explained, no Gowachin ever fully escaped feelings of awe in McKie's pres-

ence, especially when McKie smiled. They were forced to hide a response which went back to that admonition which every Gowachin learned while still clinging to his mother's back.

*Arm yourselves!* McKie thought.

Still smiling, he stopped after the prescribed eight paces, glanced once around the room then narrowed his attention.

Green crystal walls confined the sanctus. It was not a large space, a gentle oval of perhaps twenty meters in its longest dimension. A single oval window admitted warm afternoon light from Tandaloor's golden sun. The glowing yellow created a contrived *spiritual ring* directly ahead of McKie. The light focused on an aged Gowachin seated in a brown chairdog which had spread itself wide to support his elbows and webbed fingers.

At the Gowachin's right hand stood an exquisitely wrought wooden swingdesk on a scrollwork stand. The desk held one object: a metal box of dull blue about fifteen centimeters long, ten wide and six deep. Standing behind the blue box in the servant-guard position was a red-robed Wreave, her fighting mandibles tucked neatly into the lower folds of her facial slit.

This Phylum was initiating a Wreave!

The realization filled McKie with disquiet. Bildoan had not warned him about Wreaves on Tandaloor. The Wreave indicated a sad shift among the Gowachin toward a particular kind of violence. Wreaves never danced for joy, only for death. And this was the most dangerous of Wreaves, a *female*, recog-

GALAXY





*'The least thing that is known shall govern your acts.'* This was the course of evidence for the Gowachin. McKie's response put a legal burden on his questioner.

The old Gowachin's hands clutched with pleasure at the level of artistry to which this contest had risen. There was a momentary silence during which Ceylang gathered her robe tightly and moved even closer to the swingdesk. Now, there was tension in her movements. The Magister stirred, said:

"I have the disgusting honor to be High Magister of the Running Phylum, Aritch by name."

As he spoke, his right hand thrust out, took the blue box and dropped it into McKie's lap. "I place the binding oath upon you in the name of the book!"

As McKie had expected, it was done swiftly. He had the box in his hands while the final words of the ancient legal challenge were ringing in his ears. No matter the ConSentient modifications of Gowachin Law which might apply in this situation, he was caught in a convoluted legal maneuvering. The metal of the box felt cold against his fingers. They'd confronted him with the High Magister. The Gowachin were dispensing with many preliminaries. This spoke of time pressures and a particular assessment of their own predicament. McKie reminded himself that he was dealing with people who found pleasure in their own failures, could be amused by death in the Courtarena, whose most consummate pleasure came when the currents of their own Law were changed artistically.

McKie spoke with the careful

formality which ritual required if he were to emerge alive from this room.

"Two wrongs may cancel each other. Therefore, let those who do wrong do it together. That is the true purpose of Law."

Gently, McKie released the simple swing catch on the box, lifted the lid to verify the contents. This must be done with precise attention to formal details. A bitter musty odor touched his nostrils as the lid lifted. The box held what he'd expected: the book, the knife, the rock. It occurred to McKie then that he was holding the original of all such boxes. It was a thing of enormous antiquity—thousands upon thousands of standard years. Gowachin professed the belief that the Frog God had created this box, this very box, and its contents as a model, the symbol of 'the only workable Law.'

Careful to do it with his right hand, McKie touched each item of the box in its turn, closed the lid and latched it. As he did this, he felt that he stepped into a ghostly parade of Legums, names imbedded in the minstrel chronology of Gowachin history.

*'Bishkar who concealed her eggs. . .'*

*'Kondush the Diver. . .'*

*'Dritaik who sprang from the marsh and laughed at Mrreg. . .'*

*'Tonkeel of the hidden knife. . .'*

McKie wondered then how they would sing about him. Would it be 'McKie the blunderer'? His thoughts raced through review of the necessities. The primary necessity was Aritch. Little was known about this High Magister outside the

Gowachin Federation, but it was said that he'd once won a case by finding a popular bias which allowed him to kill a judge. The commentary on this coup said Aritch "embraced the Law in the same way that salt dissolves in water." To the initiates, this meant Aritch personified the basic Gowachin attitude toward their Law, 'respectful disrespect.' It was a peculiar form of sanctity. Every movement of your body was as important as your words. The Gowachin made it an aphorism.

"You hold your life in your mouth when you enter the courtarena."

They provided legal ways to kill any participant—judges, legums, clients. . . But it must be done with exquisite legal finesse, with its justifications apparent to all observers, and with the most delicate timing. Above all, one could kill in the arena only when no other choice offered the same worshipful disrespect for Gowachin Law. Even while changing the Law you were required to revere its sanctity.

When you entered the Courtarena you had to feel that peculiar sanctity in every fiber. The forms. . . the forms. . . the forms. . . With that blue box in his hands, the deadly forms of Gowachin Law dominated every movement, every word.

Knowing McKie was not Gowachin-born, Aritch was putting time pressures on him, hoping for an immediate flaw. They didn't want this Dosadi matter in the arena. That was the immediate contest. And if it did get to the arena. . . well, the crucial matter would be selection of the judges. Judges

were chosen with great care. Both sides maneuvered in this, being cautious not to intrude a professional legalist onto the bench. Judges could represent those whom the Law had offended. They could be private citizens in any number satisfactory to the opposing forces. Judges could be (and often were) chosen for their special knowledge of a case at hand. But here you were forced to weigh the subtleties of prejudice. Gowachin Law made a special distinction between prejudice and bias.

McKie considered this.

The interpretation of bias was: "If I can rule for a particular side I will do so."

For prejudice: "No matter what happens in the arena I will rule for a particular side."

Bias was permitted, but not prejudice.

Aritch was the first problem, his possible prejudgements, his bias, his inborn and most deeply conditioned attitudes. In his deepest feelings he would look down on all non-Gowachin legal systems as "devices to weaken personal character through appeals to illogic, irrationality and to ego-centered selfishness in the name of high purpose."

If Dosadi came to the arena it would be tried under modified Gowachin Law. The modifications were a thorn in the Gowachin skin. They represented concessions made for entrance into the ConSentieny. Periodically, the Gowachin tried to make their Law the basis for all ConSentient Law.

McKie recalled that a Gowachin had once said of ConSentient Law:

"It fosters greed, discontent and competitiveness not based on excellence but on appeals to prejudice and materialism."

Abruptly, McKie remembered that this was a quotation attributed to Aritch, High Magister of the Running Phylum. Were there even more deeply hidden motives in what the Gowachin did here?

Showing signs of impatience, Aritch, inhaling deeply through his chest ventricles, said:

"You are now my Legum. To be convicted is to go free because this marks you as an enemy of all government. I know you to be such an enemy, McKie."

"You know me," McKie agreed.

It was more than ritual response and obedience to forms; it was truth. But it required great effort for McKie to speak it calmly. In the almost fifty years since he'd been admitted to the Gowachin Bar, he'd served that ancient legal structure four times in the Courtarena, a minor record among the ordinary Legums. Each time, his personal survival had been in the balance. In all of its stages, this contest was a deadly battle. The loser's life belonged to the winner and could be taken at the winner's discretion. On rare occasions, the loser might be sold back to his own Phylum as a menial. Even the losers disliked this choice.

*"Better clean death than dirty life."*

The blood-encrusted knife in the blue box testified to the more popular outcome. It was a practice which made for rare litigation and memorable court performances.

Aritch, speaking with eyes closed

and the Running Phylum tattoos formally displayed, brought their encounter to its testing point.

"Now, McKie, you will tell me what official matters of the Bureau of Sabotage bring you to the Gowachin Federation."

\*\*\*

**Law must retain useful ways to break with traditional forms because nothing is more certain than that the forms of Law remain when all justice is gone.**

—Gowachin Aphorism

He was tall for a Dosadi Gowachin but fat and ungroomed. His feet shuffled when he walked and there was a permanent stoop to his shoulders. A flexing wheezing overcame his chest ventricles when he became excited. He knew this and was aware that those around him knew it. He often used this characteristic as a warning, reminding people that no Dosadi held more power than he, and that power was deadly. All Dosadi knew his name: Broey. And very few misinterpreted the fact that he'd come up through the Sacred Congregation of the Heavenly Veil to his post as chief steward of Control: The Elector. His private army was Dosadi's largest, most efficient and best armed. Broey's intelligence corps was a thing to invoke fear and admiration. He maintained a fortified suite atop his headquarters building, a structure of stone and steel which fronted the main arm of the

river in the heart of Chu. Around this core, the twisting walled fortifications of the city stepped outward in concentric rings. The only entrance to Broey's citadel was through a guarded Tube Gate in a sub-basement, designated TG One. TG One admitted the select of the select and no others.

In the forenoon, the ledges outside Broey's windows were a roosting place for carrion birds which occupied a special niche on Dosadi. Since the Lords of the Veil forbade the eating of sentient flesh by sentient, this task devolved upon the birds. Flesh from the people of Chu and even from the Rim carried fewer of the planet's heavy metals. The carrion birds prospered. A flock of them strutted along Broey's ledge coughing, squawking, defecating, brushing against each other with avian insolence while they watched the outlying streets for signs of food. They also watched the Rim, but it had been temporarily denied to them by a sonabarrier. Bird sounds came through a voder into one of the suite's eight rooms. This was a yellow-green space about ten meters long and six wide occupied by Broey and two Humans.

Broey uttered a mild expletive at the bird noise. The confounded creatures interfered with clear thinking. He shuffled to the window and silenced the voder. In the sudden quiet he looked out at the city's perimeter and the lower ledges of the enclosing cliffs. Another Rim foray had been repulsed out there in the night. Broey had made a personal inspection in a convoy of armored vehicles earlier. The troops

liked it that he occasionally shared their dangers. The carrion birds already had cleaned up most of the mess by the time the armored column swept through. The flat back structure of Gowachin who had no front rib cage had been easily distinguishable from the white framework which had housed Human organs. Only a few rags of red and green flesh had marked where the birds had abandoned their feast when the sonabarriers herded them away.

When he considered the sonabarriers, Broey's thoughts grew hard and clear. The sonabarriers were one of Gar's damned affectations! *Let the birds finish it.*

But Gar insisted a few bodies be left around to make the point for the Rim survivors that their attacks were hopeless.

*The bones by themselves would be just as effective.*

Gar was bloody minded.

Broey turned and glanced across the room past his two Human companions. Two of the walls were taken up by charts bearing undulant squiggles in many colors. On a table at the room's center lay another chart with a single red line. The line curved and dipped ending almost in the middle of the chart. Near this terminus lay a white card and, beside it stood a Human male statuette with an enormous erection which was labeled "Rabble." It was a subversive, forbidden artifact of Rim origin. The people of the Rim knew where their main strength lay: breed, breed, breed. . .

The two Humans sat facing each other across the chart. They fitted into the space around them through



a special absorption. It was as though they'd been initiated into the secrets of Broey's citadel through an esoteric ritual both forbidding and dangerous.

Broey returned to his chair at the head of the table, sat down and quietly continued to study his companions. He experienced amusement to feel his fighting claws twitch beneath their finger shields as he looked at the two. Yes—trust them no more than they trusted him. They had their own troops, their own spies—they posed real threat to Broey but often their help was useful. Just as often they were a nuisance.

William Gar, the Human male who sat with his back to the windows, looked up as Broey resumed his seat. Gar snorted, somehow conveying that he'd been about to silence that voder himself.

*Damned carrion birds! But they were useful . . . useful.*

The Rimborn were always ambivalent about the birds.

Gar rode his chair as though talking down to ranks of the uninformed. He'd come up through the educational services in the Convocation before joining Broey. Gar was thin with an inner emaciation so common that few on Dosadi gave it any special notice. He had the hunter's face and eyes, carried his eighty-eight years as though they were twice that. Hairline wrinkles crawled down his cheeks. The bas relief of veins along the backs of his hands and the grey hair betrayed his Rim origins, as did a tendency to short temper. The Labor Pool green of his clothing foiled very few, his face was that well known.

Across from Gar sat his eldest daughter and chief lieutenant, Tria. She'd placed herself there to watch the windows and the cliffs. She'd also been observing the carrion birds, rather enjoying their sounds. It was well to be reminded here of what lay beyond the city's outer gates.

Tria's face held too much brittle sharpness to be considered beautiful by any except an occasional Gowachin looking for an exotic experience or a Warren laborer hoping to use her as a step out of peonage. She often disconcerted her companions by a wide-eyed cynical stare. She did this with an aristocratic sureness which commanded attention. Tria had developed the gesture for just this purpose. Today, she wore the orange with black trim of Special Services but without a brassard to indicate the branch. She knew that this led many to believe her Broey's personal toy, which was true but not in the way the cynical supposed. Tria understood her special value: she possessed a remarkable ability to interpret the vagaries of the DemoPol.

Indicating the red line on the chart in front of her, Tria said: "She has to be the one. How can you doubt it?" And she wondered why Broey continued to worry at the obvious.

"Keila Jedrik," Broey said. And again: "Keila Jedrik."

Gar squinted at his daughter.

"Why would she include herself among the fifty who. . ."

"She sends us a message," Broey said. "I hear it clearly now." He seemed pleased by his own thoughts.

Gar read something else in the Gowachin's manner.

"I hope you're not having her killed."

"I'm not as quick to anger as are you Humans," Broey said.

"The usual surveillance?" Gar asked.

"I haven't decided. You know, don't you, that she lives a rather celebrate life? Is it that she doesn't enjoy the males of your species?"

"More likely they don't enjoy her," Tria said.

"Interesting. Your breeding habits are so peculiar."

Tria shot a measuring stare at Broey. She wondered why the Gowachin had chosen to wear black today. It was a robe-like garment cut at a sharp angle from shoulders to waist, clearing his ventricles. The ventricles revolted her and Broey knew this. The very thought of them pressing against her. . . She cleared her throat. Broey seldom wore black; it was the happy color of priestly celebrants. He wore it, though, with a remoteness which suggested that thoughts passed through his mind which no other person could experience.

The exchange between Broey and his daughter worried Gar. He could not help but feel the oddity, that each of them tried to present a threatening view of events by withholding some data and coloring other data.

"What if she runs out to the Rim?" Gar asked.

Broey shook his head.

"Let her go. She's not one to stay on the Rim."

"Perhaps we should have her picked up," Gar said.

Broey stared at him, then:

"I've gained the distinct impression that you've some private plan in mind. Are you prepared to share it?"

"I've no idea what you. . ."

"Enough!" Broey shouted. His ventricles wheezed as he inhaled.

Gar held himself very quiet.

Broey leaned toward him, noting that this exchange amused Tria.

"It's too soon to make decisions we cannot change! This is a time for ambiguity."

Irritated by his own display of anger, Broey arose and hurried into his adjoining office where he locked the door. It was obvious that those two had no more idea than he where Jedrik had gone to ground. But it was still his game. She couldn't hide forever. Seated once more in his office, he called Security.

"Has Bahrank returned?"

A senior Gowachin officer hurried into the screen's view, looked up.

"Not yet."

"What precautions to learn where he delivers his cargo?"

"We know his entry gate. It'll be simple to track him."

"I don't want Gar's people to know what you're doing."

"Understood."

"That other matter?"

"Pcharky may have been the last one. He could be dead, too. The killers were thorough."

"Keep searching."

Broey put down a sense of disquiet. Some very un-Dosadi things were happening in Chu . . . and on the Rim. He felt that things occurred which his spies could not un-

cover. Presently, he returned to the more pressing matter.

"Bahrank is not to be interfered with until afterward."

"Understood."

"Pick him up well clear of his delivery point and bring him to your section. I will interview him personally."

"Sir, his addiction to. . ."

"I know the hold she has on him. I'm counting on it."

"We've not yet secured any of that substance, sir, although we're still trying."

"I want success, not excuses. Who's in charge of that?"

"Kidge, sir. He's very efficient in this. . ."

"Is Kidge available?"

"One moment, sir. I'll put him on."

Kidge had a phlegmatic Gowachin face and rumbling voice.

"Do you want a status report, sir?"

"Yes."

"My Rim contacts believe the addictive substance is derived from a plant called 'tibac.' We have no prior record of such a plant, but the outer Rabble has been cultivating it lately. According to my contacts, it's extremely addictive to Humans, even more so to us."

"No record? What's its origin? Do they say?"

"I talked personally to a Human who'd recently returned from upriver where the outer Rabble reportedly has extensive plantations of this 'tibac.' I promised my informant a place in the Warrens if he provides me with a complete report on the stuff and a kilo packet of it. This informant says the cultivators

believe tibac has religious significance. I didn't see any point in exploring that."

"When do you expect him to deliver?"

"By nightfall at the latest."

Broey held his silence for a moment. *Religious significance.* More than likely the plant came from beyond the God Wall then, as Kidge implied. But why? What were they doing?

"Do you have new instructions?" Kidge asked.

"Get that substance up to me as soon as you can."

Kidge fidgeted. He obviously had another question but was unwilling to ask it.

Broey glared at him.

"Yes? What is it?"

"Don't you want the substance tested first?"

It was a baffling question. Had Kidge withheld vital information about the dangers of this tibac? One never knew from what quarter an attack might come. But Kidge was held in his own special bondage. He knew what could happen to him if he failed Broey. And Jedrik had handled this stuff. But why had Kidge asked this question? Faced with such unknowns, Broey tended to withdraw into himself, eyes veiled by the nictating membrane while he weighed the possibilities. Presently, he stirred, looked at Kidge in the screen.

"If there's enough of it, feed some to volunteers—both Human and Gowachin. Get the rest of it up to me immediately, even while you're testing, but in a sealed container."

"Sir, there are rumors about this

stuff. It'll be difficult getting real volunteers."

"You'll think of something."

Broey broke the connection, returned to the outer room to make his political peace with Gar and Tria. He was not ready to blunt that pair . . . not yet.

They were sitting just as he'd left them. Tria was speaking:

"... the highest probability and I have to go on that."

Gar merely nodded.

Broey seated himself, nodded to Tria, who continued as though there'd been no hiatus.

"Clearly, Jedrik's a genius. And her Loyalty Index! That has to be false, contrived. And look at her decisions: one questionable decision in four years. One!"

Gar moved a finger along the red line on the chart. It was a curiously sensuous gesture, as though he were stroking flesh.

Broey gave him a verbal prod.

"Yes, Gar, what is it?"

"I was just wondering if Jedrik could be another. . ."

His glance darted ceilingward, back to the chart. They all understood his allusion to intruders from beyond the God Wall.

Broey looked at Gar as though awakening from an interrupted thought. What'd that fool Gar mean by raising such a question at this juncture? The required responses were so obvious.

"I agree with Tria's analysis," Broey said. "As to your question. . ." He gave a Human shrug. "Jedrik reveals some of the classic requirements, but. . ." Again, that shrug. "This is still the world God gave us."

Colored as they were by his years in the Sacred Congregation, Broey's words took on an unctuous overtone, but in this room the message was strictly secular.

"The others have been such disappointments," Gar said. "Especially Havvy." He moved the statuette to a more central position on the chart.

"We failed because we were too eager," Tria said, her voice snappish. "Poor timing."

Gar scratched his chin with his thumb. Tria sometimes disturbed him by that accusatory tone she took toward their failures. He said:

"But . . . if she turns out to be one of them and we haven't allowed for it. . ."

"We'll look through that gate when we come to it," Broey said. "If we come to it. Even another failure could have its uses. The food factories will give us a substantial increase at the next harvest. That means we can postpone the more troublesome political decisions which have been bothering us."

Broey let this thought hang between them while he set himself to identifying the lines of activity revealed by what had happened in this room today.

Yes, the Humans betrayed unmistakable signs that they behaved according to a secret plan. Things were going well, then: they'd attempt to supercede him soon . . . and fail.

A door behind Tria opened. A fat Human female entered. Her body bulged in green coveralls and her round face appeared to float in a halo of yellow hair. Her cheeks betrayed the telltale lividity of *dacon*

addiction. She spoke subversively to Gar.

"You told me to interrupt if. . ."

"Yes, yes."

Gar waved to indicate she could speak freely. The gesture's significance did not escape Broey. Another part of their set piece.

"We've located Havvy but Jedrik's not with him."

Gar nodded, addressed Broey:

"Whether Jedrik's an agent or another puppet, this whole thing smells of something *they* have set in motion."

Once more, his gaze darted ceilingward.

"I will act on that assumption," Tria said. She pushed her chair back, arose. "I'm going into the Warrens."

Broey looked up at her. Again, he felt his talons twitch beneath their sheaths. He said:

"Don't interfere with them."

Gar forced his gaze away from the Gowachin while his mind raced. Often, the Gowachin were difficult to read, but Broey had been obvious just then: He was confident that he could locate Jedrik and he didn't care who knew it. That could be very dangerous.

Tria had seen it, too, of course, but she made no comment, merely turned and followed the fat woman out of the room.

Gar arose like a folding ruler being opened to its limit. "I'd best be getting along. There are many matters requiring my personal attention."

"We depend on you for a great deal," Broey said.

He was not yet ready to release Gar, however. Let Tria get well on

her way. Best to keep those two apart for a spell. He said:

"Before you go, Gar. Several things still bother me. Why was Jedrik so precipitate? And why destroy her records? What was it that we were not supposed to see?"

"Perhaps it was an attempt to confuse us," Gar said, quoting Tria. "One thing's sure: it wasn't just an angry gesture."

"There must be a clue somewhere," Broey said.

"Would you have us risk an interrogation of Havvy?"

"Of course not!"

Gar showed no sign that he recognized Broey's anger. He said:

"Despite what you and Tria say, I don't think we can afford another mistake at this time. Havvy was . . . well. . ."

"If you recall," Broey said, "Havvy was not one of Tria's mistakes. She went along with us under protest. I wish now we'd listened to her." He waved a hand idly in dismissal. "Go see to your important affairs." He watched Gar leave.

Yes, on the basis of the Human's behavior it was reasonable to assume he knew nothing as yet about this *infiltrator* Bahrak was bringing through the gates. Gar would've concealed such valuable information, would not have dared raise the issue of a God Wall intrusion. . . Or would he? Broey nodded to himself. This must be handled with great delicacy.

\*\*\*

**We will now explore the particular imprint which various**

**GALAXY**

**governments make upon the individual. First, be sure you recognize the primary governing force. For example, take a careful look at Human history. Humans have been known to submit to many constraints: to rule by Autarchs, by Plutarchs, by the power seekers of the many Republics, by Oligarchs, by tyrant Majorities and Minorities, by the hidden persuasions of Polls, by profound instincts and shallow juvenilities. And always, the governing force as we wish you now to understand this concept was whatever the individual believed had control over his immediate survival. Survival sets the pattern of imprint. During much of Human history (and the pattern is similar with most sentient species) Corporation presidents held more survival in their casual remarks than did the figurehead officials. We of the ConSentency cannot forget this as we keep watch on the Multi-world Corporations. We dare not even forget it of ourselves. Where you work for your own survival, this dominates your imprint, this dominates what you believe.**

**—Instruction Manual,  
Bureau of Sabotage**

*Never do what your enemy wants you to do,* McKie reminded himself.

In this moment, Aritch was the enemy, having placed the binding oath of Legum upon an agent of BuSab, having demanded information to which he had no right. The

old Gowachin's behavior was consistent with the demands of his own legal system, but it immediately magnified the area of conflict by an enormous factor.

McKie chose a minimal response.

"I'm here because Tandaloor is the heart of the Gowachin Federation."

Aritch, who'd been sitting with his eyes closed to emphasize the formal Client-Legum relationship, opened his eyes to glare at McKie.

"I remind you *once* that I am your client."

Signs indicating a dangerous new tension in the Wreave servant were increasing, but McKie was forced to concentrate his attention on Aritch.

"You name *yourself* client. Very well. The client must answer truthfully such questions as the Legum asks when the legal issues demand it."

Aritch continued to glare at McKie, latent fire in the yellow eyes. Now, the battle was truly joined.

McKie sensed how fragile was the relationship upon which his survival depended. The Gowachin, signatories to the great ConSentency Pact binding the species of the known universe, were legally subject to certain BuSab intrusions. But Aritch had placed them on another footing. If the Gowachin Federation disagreed with McKie/Agent, they could take him into the Courtarena as a Legum who had wronged a client. With the entire Gowachin Bar arrayed against him, McKie did not doubt which Legum would *taste the knife*. His one hope lay in avoiding immediate litigation.

That was, after all, the real basis of Gowachin Law.

Moving a step closer to specifics, McKie said:

"My Bureau has uncovered a matter of embarrassment to the Gowachin Federation."

Aritch blinked twice.

"As we suspected."

McKie shook his head. They didn't suspect, they knew. He counted on this: that the Gowachin understood why he'd answered their summons. If any Sentient under the Pact could understand his position, it had to be the Gowachin. BuSab reflected Gowachin philosophy. Centuries had passed since the great convulsion out of which BuSab had originated, but the ConSentient universe had never been allowed to forget that birth. It was taught to the young of every species.

"Once, long ago, a tyrannical majority captured the government. They said they would make all individuals equal. They meant they would not let any individual be better than another at doing anything. Excellence was to be suppressed or concealed. The tyrants made their government act with great speed 'in the name of the people.' They removed delays and red tape wherever found. There was little deliberation. Unaware that they acted out of an unconscious compulsion to prevent all change, the tyrants tried to enforce a grey sameness upon every population.

"Thus the powerful governmental machine blundered along at increasingly reckless speed. It took commerce and all the important elements of society with it. Laws were

thought of and passed within hours. Every society came to be twisted into a suicidal pattern. People became unprepared for those changes which the universe demanded. They were unable to change.

"It was the time of *brittle money*, 'appropriated in the morning and gone by nightfall,' as you learned earlier. In their passion for sameness, the tyrants made themselves more and more powerful. All others grew correspondingly weaker and weaker. New bureaus and directorates, odd ministries, leaped into existence for the most improbable purposes. These became the citadels of a new aristocracy, rulers who kept the giant wheel of government careening along, spreading destruction, violence and chaos wherever they touched.

"In those desperate times, a handful of people (the Five Ears, their makeup and species never revealed) created the Sabotage Corps to slow that runaway wheel of government. The original corps was bloody, violent and cruel. Gradually, the original efforts were replaced by more subtle methods. The governmental wheel slowed, became more manageable. Deliberation returned.

"Over the generations, that original Corps became a Bureau, the Bureau of Sabotage, with its present Ministerial powers, preferring diversion to violence but ready for violence when the need arises."

They were words from McKie's own teens, generators of a concept modified by his experiences in the Bureau. Now, he was aware that this directorate composed of all the known sentient species was headed

into its own entropic corridors. Someday, the Bureau would dissolve or be dissolved, but the universe still needed them. The old imprints remained, the old futile seeking after absolutes of sameness. It was the ancient conflict between what the individual saw as personal needs for immediate survival and what the totality required if any were to survive. And now it was the Gowachin versus the ConSentienty and Aritch was the champion of his people.

McKie studied the High Magister carefully, sensitive to the unrelieved tensions in the Wreave attendant. Would there be violence in this room? It was a question which remained unanswered as McKie spoke.

"You have observed that I am in a difficult position. I do not enjoy the embarrassment of revered teachers and friends, nor of their compatriots. Yet, evidence has been seen. . ."

He let his voice trail off. Gowachin disliked dangling implications.

Aritch's claws slid from the sheaths of his webbed fingers.

"Your client wishes to hear of this evidence."

Before speaking, McKie rested his hand on the latch of the box in his lap.

"Many people from two species have disappeared. Two species: Gowachin and Human. Singly, these were small matters, but these disappearances have been going on for a long time—perhaps twelve or fifteen generations by the old Human reckoning. Taken together, these disappearances are massive.



THE DOSADI EXPERIMENT



We've learned that there's a planet called Dosadi where these people were taken. Such evidence as we have has been examined carefully. It all leads to the Gowachin Federation."

Aritch's fingers splayed, a sign of acute embarrassment. Whether assumed or real McKie could not tell.

"Does your Bureau accuse the Gowachin?"

"You know the function of my Bureau. We do not yet know the location of Dosadi, but we'll find it."

Aritch remained silent. He knew BuSab had never given up on a problem.

McKie raised the blue box.

"Having thrust this upon me you've made me guardian of your fate, client. You've no rights to inquire as to my methods. I will not follow *old law*."

Aritch nodded.

"It was my argument that you'd react thus."

He raised his right hand.

The rhythmic 'death flexion' swept over the Wreave and her fighting mandibles darted from her facial slit.

At the first movement from her, McKie whipped open the blue box, snatched out book and knife. He spoke with a firmness his body did not feel:

"If she makes the slightest move toward me, my blood will defile this book." He placed the knife against his own wrist. "Does your Servant of the Box know the consequences? The history of the Running Phylum would end. Another Phylum would be presumed to've accepted the Law from its Giver.

The name of this Phylum's *last* High Magister would be erased from living thought. Gowachin would eat their own eggs at the merest hint that they had Running Phylum blood in their veins."

Aritch remained frozen, right hand raised. Then:

"McKie, you are revealed as a sneak. Only by spying on our most sacred rituals could you know this."

"Did you think me some fearful, pliable dolt, client? I am a true Legum. A Legum does not have to sneak to learn the Law. When you admitted me to your Bar you opened every door."

Slowly, muscles quivering, Aritch turned and spoke to the Wreave:

"Ceylang?"

She had difficulty speaking while her poison-tipped fighting mandibles remained extruded.

"Your command?"

"Observe this Human well. Study him. You will meet again."

"I obey."

"You may go, but remember my words."

"I remember."

McKie, knowing the death dance could not remain incomplete, stopped her.

"Ceylang!"

Slowly, reluctantly, she looked at him.

"Do observe me well, Ceylang. I am what you hope to be. And I warn you: unless you shed your Wreave skin you will never be a Legum." He nodded in dismissal. "Now, you may go."

In a fluid swish of robes she obeyed, but her fighting mandibles

remained out, their poison-tips glittering. Somewhere in her triad's quarters, McKie knew there'd be a small feathered pet which would die presently with poison from its mistress burning through its veins. Then the death dance would be ended and she could retract her mandibles. But the hate would remain.

When the door had closed behind the red robe, McKie restored book and knife to the box, returned his attention to Aritch. Now, when McKie spoke, it was really Legum to Client without any sophistry and they both knew it.

"What would tempt the High Magister of the renowned Running Phylum to bring down the Arch of Civilization?"

McKie's tone was conversational, between equals.

Aritch had trouble adjusting to the new status. His thoughts were obvious. If McKie had witnessed a Cleansing Ritual McKie had to be accepted as a Gowachin. But McKie was *not* Gowachin. Yet he'd been accepted before the Gowachin Bar . . . and if he'd seen that most sacred ritual. . .

Presently, Aritch spoke.

"Where did you see the ritual?"

"It was performed by the Phylum which sheltered me on Tandaloor."

"The Dry Heads?"

"Yes."

"Did they know you witnessed?"

"They invited me."

"How did you shed your skin?"

"They scraped me raw and preserved the scrapings."

Aritch took some time digesting this. The Dry Heads had played their own secret game of Gowachin



politics and now the secret was out. He had to consider the implications. What had they hoped to gain? He said:

"You wear no tatoo."

"I've never made formal application for Dry Heads membership."

"Why?"

"My primary allegiance is to BuSab."

"The Dry Heads know this?"

"They encourage it."

"But what motivated them to. . ."

McKie smiled.

Aritch glanced at a veiled alcove at the far end of the sanctum, back to McKie. A likeness to the Frog God?

"It'd take more than that."

McKie shrugged.

Aritch mused aloud:

"The Dry Heads supported



Klodik in his crime when you. . .

"Not crime."

"I stand corrected. You won Klodik's freedom. And after your victory the Dry Heads invited you to the Cleansing Ritual."

"A Gowachin in BuSab cannot have divided allegiance."

"But a Legum serves only the Law!"

"BuSab and Gowachin Law are not in conflict."

"So the Dry Heads would have us believe."

"Many Gowachin believe it."

"But Klodik's case was not a true test."

Realization swept through McKie: Aritch regretted more than a lost bet. He'd put his money with his hopes. It was time then to redirect this conversation.

"I am your Legum."

Aritch spoke with resignation.

"You are."

"Your Legum wishes to hear of the Dosadi problem."

"A thing is not a problem until it arouses sufficient concern." Aritch glanced at the box in McKie's lap. "We're dealing with differences in values, changes in values."

McKie did not believe for an instant this was the tenor of Gowachin defense, but Aritch's words gave him pause. The Gowachin combined such an odd mixture of respect and disrespect for their Law and all government. At the root lay their unchanging rituals but above that everything remained as fluid as the seas in which they'd evolved. Constant fluidity was the purpose behind their rituals. You never entered any exchange with Gowachin on a surefooted basis. They did something different every time . . . religiously. It was their nature. *All ground is temporary. Law is made to be changed.* That was their catechism. *To be a Legum is to learn where to place your feet.*

"The Dry Heads did something different," McKie said. This plunged Aritch into gloom. His chest ventricles wheezed, indicating he'd speak from the stomach. "The people of the ConStencyency come in so many different forms: Wreaves (a flickering glance downward), Sobarips, Laclacs, Calebans, PanSpechi, Palenki, Chithers, Taprisots, Humans, we of the Gowachin . . . so many. The unknowns between us defy counting."

"As well count the drops of water in a sea."

Aritch grunted, then:

"Some diseases cross the barriers

between species."

McKie stared at him. Was Dosadi a medical experiment station? Impossible! There would be no reason for secrecy then. Secrecy defeated the efforts to study a common problem and the Gowachin knew it.

"You are not studying Gowachin-Human diseases."

"Some diseases attack the psyche and cannot be traced to any physical agent."

McKie absorbed this. Although Gowachin definitions were difficult to understand, they permitted no aberrant behaviour. Different behavior, yes; aberrant behavior, no. You could challenge the law, not the ritual. They were compulsive in this regard. They slew the ritual deviant out of hand. It required enormous restraint on their part to deal with another species.

Aritch continued:

"Terrifying psychological abstractions occur when divergent species confront each other and are forced to adapt to new ways. We seek new knowledge in this arena of behavior."

McKie nodded.

One of his Dry Head teachers had said it: "No matter how painful, life must adapt or die."

It was a profound revelation about how Gowachin applied their insight to themselves. Law changed, but it changed on a foundation which could not be permitted the slightest change. "Else, how do we know where we are or where we have been?" But encounters with other species changed the foundation. Life adapted . . . willingly or by force.

McKie spoke with care.

"Psychological experiments with people who've not given their informed consent are still illegal . . . even among the Gowachin."

Aritch would not accept this argument.

"The ConStencyency in all of its parts has accumulated a long history of scientific studies into behavioral and biomedical questions where people are the final test site."

McKie said:

"And the first issue when you propose such an experiment is: 'How great is the known risk to the subjects?'"

"But, my dear Legum, *informed consent* implies that the experimenter knows all the risks and can describe them to his test subjects. I ask you: How can that be when the experiment goes beyond what you already know? How can you describe risks which you cannot anticipate?"

"You submit a proposal to many recognized experts in the field," McKie said. "They weigh the proposed experiment against whatever value the new knowledge is expected to uncover."

"Ahh, yes. We submit our proposal to fellow researchers, to people whose *mission*, whose very view of their own personal identity is controlled by the belief that they can improve the lot of all sentient beings. Tell me, Legum: Do review boards composed of such people reject many experimental proposals?"

McKie saw the direction of the argument. He spoke with care.

"They don't reject many proposals, that's true. Still, you didn't submit your Dosadi protocol to any outside review. Was that to keep it

secret from your own people or from others?"

"We feared the fate of our proposal should it run the gantlet of other species."

"Did a Gowachin majority approve your project?"

"No. But we both know that having a majority set the experimental guidelines gives no guarantee against dangerous projects."

"Then Dosadi has proved dangerous?"

Aritch remained silent for several deep breaths, then:

"It has proved dangerous."

"To whom?"

"Everyone."

It was an unexpected answer, adding a new dimension to Aritch's behavior. McKie decided to back up and test the revelation.

"This Dosadi project was approved by a minority among the Gowachin, a minority willing to accept a dangerous risk-benefit?"

"You have a way of putting these matters, McKie, which presupposes a particular kind of guilt."

"But a majority in the ConSentency might agree with my description?"

"Should they ever learn of it?"

"I see. Then, in accepting a dangerous risk, what were the future benefits you expected?"

Aritch emitted a deep grunt.

"Legum, I assure you that we worked only with volunteers and they were limited to Humans and Gowachin."

"You evade my question."

"I merely defer an answer."

"Then tell me, did you explain to your volunteers that they had a choice, that they could say 'no'?

Did you tell them they might be in danger?"

"We did not try to frighten them . . . no."

"Was any one of you concerned about the free destiny of your volunteers?"

"Be careful how you judge us, McKie. There is a fundamental tension between science and freedom—no matter how science is viewed by its practitioners nor how freedom is sensed by those who believe they have it."

McKie was reminded of a cynical Gowachin aphorism: *'To believe that you are free is more important than being free.'* He said:

"Your volunteers were lured into this project."

"Some would see it that way."

McKie reflected on this. He still did not know precisely what the Gowachin had done on Dosadi, but he was beginning to suspect it'd be something repulsive. He could not keep this fear from his voice.

"We return to the question of expected benefits."

"Legum, we have long admired your species. You gave us one of our most trusted maxims: *'No species is to be trusted farther than it is bound by its own interests.'*"

"That's no longer sufficient justification for . . ."

"We derive another rule from your maxim: It is wise to guide your actions in such a way that the interests of other species coincide with the interests of your species."

McKie stared at the High Magister. Did this crafty old Gowachin seek a Human-Gowachin conspiracy to suppress evidence of what had been done on Dosadi? Would he

dare such a gambit? Just how bad was this Dosadi fiasco?

To test the issue, McKie asked:

"What benefits did you expect? I insist."

Aritch slumped. His chairdog accommodated to the new position. The High Magister favored McKie with a heavy-lidded stare for a long interval, then:

"You play this game better than we'd ever hoped."

"With you, Law and Government are always a game. I come from another arena."

"Your Bureau."

"And I was trained as a Legum."

"Are you my Legum?"

"The binding oath is binding on me. Have you no faith in . . ."

McKie broke off, overwhelmed by a sudden insight. Of course! The Gowachin had known for a long time that Dosadi would become a legal issue.

"Faith in what?" Aritch asked.

"Enough of these evasions!" McKie said. "You had your Dosadi problem in mind when you trained me. Now, you act as though you distrust your own plan."

Aritch's lips rippled.

"How strange. You're more Gowachin than a Gowachin."

"What benefits did you expect when you took this risk?"

Aritch's fingers splayed, stretching the webs.

"We hoped for a quick conclusion and benefits to offset the natural animosities we knew would arise. But it's now more than twenty of your generations, not twelve or fifteen, that we've grasped the firebrand. Benefits?

Yes, there are some, but we dare not use them or free Dosadi from bondage lest we raise questions which we cannot answer without revealing our . . . source."

"The benefits!" McKie said. "Your Legum insists."

Aritch exhaled a shuddering breath through his ventricles.

"Only the Calebain who guards Dosadi knows its location and she is charged to give access without revealing that place. Dosadi is peopled by Humans and Gowachin. They live in a single city they call Chu. Some ninety million people live there, almost equally divided between the two species. Perhaps three times that number live outside Chu, but they're outside the experiment. Chu is approximately eight hundred square kilometers."

The population density shocked McKie. Millions per kilometer. He had difficulty visualizing it. Even allowing for a city's vertical dimension . . . and burrowing. . . There'd be some, of course, whose power bought them space, but the others . . . Gods! Such a city would be crawling with people, no escaping the pressure of your fellows anywhere except on that unexplained Rim. McKie said as much to Aritch.

The High Magister confirmed this.

"The population density is very great in some areas. The people of Dosadi call these areas 'Warrens' for good reason."

"But why? With an entire planet to live on . . ."

"Dosadi is poisonous to our forms of life. All of their food comes from carefully managed hy-

droponics factories in the heart of Chu. Food factories and the distribution are managed by warlords. Everything is under a quasi-military form of management. But life expectancy in the city is four times that outside."

"You said the population outside the city was much larger than. . ."

"They breed like mad animals."

"What possible benefits could you have expected from. . ."

"Under pressure, life reveals its basic elements."

McKie considered what the High Magister had revealed. The picture of Dosadi was that of a seething mass. Warlords. . . He visualized walls, some people living and working in comparative richness of space while others. . . Gods! It was madness in a universe where some highly habitable planets held no more than a few thousand people. His voice brittle, McKie addressed himself to the High Magister.

"These basic elements, the *benefits* you sought. . . I wish to hear about them."

Aritch hitched himself forward.

"We have discovered new ways of association, new devices of motivation, unsuspected drives which can impose themselves upon an entire population."

"I require specific and explicit enumeration of these discoveries."

"Presently, Legum. . . presently."

Why did Aritch delay? Were the so-called benefits insignificant beside this repulsive horror of such an experiment? McKie ventured another tack.

"You say this planet is poisonous. Why not remove the inhabit-

ants a few at a time, subject them to memory erasure if you must, and feed them out into the ConSentency as new. . ."

"We dare not! First, the inhabitants have developed an immunity to erasure, a by-product of those poisons which do get into their diet. Second, given what they have become on Dosadi. . . How can I explain this to you?"

"Why don't the people just leave Dosadi? I presume you deny them jumpdoors, but rockets and other mechanical. . ."

"We will not permit them to leave. Our Calcan encloses Dosadi in what she calls a 'tempokinetic barrier' which our test subjects cannot penetrate."

"Why?"

"We will destroy the entire planet and everything on it rather than loose this population upon the ConSentency."

"What are the people of Dosadi that you'd even contemplate such a thing?"

Aritch shuddered.

"We have created a monster."

\*\*\*

Every government is run by liars and nothing they say should be believed.

—Attributed to an ancient Human journalist

As she hurried across the roof of the adjoining parking spire at mid-afternoon of her final day, as a Liaitor, Jedrik couldn't clear her mind of the awareness that she was about to shed another mark of rank.

Stacked in the building beneath her, each one suspended by its roof grapples on the conveyor track, were the vehicles of the power merchants and their minions. The machines varied from the giant *jai-gers*, heavy with armor and weapons and redundant engine systems, of the ruling few, down to the tiny black *skitters* assigned to such as herself. Ex-minion Jedrik knew she was about to take a final ride in the machine which had released her from the morning and evening crush on the underground walkways.

She had timed her departure with care. The ones who rode in the *jai-gers* would not yet have reassigned her *skitter* and its driver. That driver, Havvy, required her special attention in this last ride, this narrow time slot which she had set aside for dealing with him.

Jedrik sensed events rushing at their own terrible pace now. Just that morning she had loosed death against fifty Humans. Now, the avalanche gathered power.

The parking spire's roof pavement had been poorly repaired after the recent explosive destruction of three Rim guerrillas. Her feet adjusted to the rough paving as she hurried across the open area to the drop chute. At the chute, she paused and glanced westward through Chu's enclosing cliffs. The sun, already nearing its late afternoon line on the cliffs, was a golden glow beyond the God Wall's milky barrier. To her newly sensitized fears, this was not a sun but a malignant eye which peered down at her.

By now, the rotfiles in her office would've been ignited by the

clumsy intrusion of the LP toads. There'd be a delay while they reported this, while it was bucked up through the hierarchy to a level where somebody dared make an important decision.

Jedrik fought against letting her thoughts fall into trembling shadows. After the rotfiles, other data would accumulate. The Elector's people would grow increasingly suspicious. But that was part of her plan, a layer with many layers.

Abruptly, she stepped into the chute, dropped to her parking level, stared across the catwalks at her *skitter* dangling among the others. Havvy sat on the sloping hood, his shoulders in their characteristic slouch. Good. He behaved as expected. A certain finesse was called for now, but she expected no real trouble from anyone as shallow and transparent as Havvy. Still, she kept her right hand in the pocket where she'd secreted a small but adequate weapon. Nothing could be allowed to stop her now. She had selected and trained lieutenants, but none of them quite matched her capabilities. The military force which had been prepared for this moment needed Jedrik for that extra edge which could pluck victory from the days ahead of them.

*For now, I must float like a leaf above the hurricane.*

Havvy was reading a book, one of those pseudo-deep things he regularly affected, a book which she knew he would not understand. As he read, he pulled at his lower lip with thumb and forefinger, the very picture of a deep intellectual involvement with important ideas. But



it was only a picture. He gave no sign that he heard Jedrik hurrying toward him. A light breeze flicked the pages and he held them with one finger. She could not yet see the title, but assumed this book would be on the contraband list as was much of his reading. That was the peak of Havvy's risk taking, not great but imbued with a certain false glamor. Another picture.

She could see him quite distinctly now in readable detail. He should have looked up by now but still sat absorbed in his book. Havvy possessed large brown eyes which he obviously believed he employed with deceptive innocence. The real innocence went far beyond his shallow attempts at deception. Jedrik's imagination easily played the scene should one of Broey's people confront Havvy in this pose.

"A contraband book?" Havvy would ask, playing his brown eyes for all their worthless innocence. "I didn't think there were any more of those around. Thought you'd burned them all. Fellow handed it to me on the street when I asked what he was reading."

And the Elector's spy would conceal a sneer while asking: "Didn't you question such a gift?"

Should it come to that, things would grow progressively stickier for Havvy along paths he could not anticipate. His innocent brown eyes would deceive one of the Elector's people no more than they deceived her. In view of this, she read other messages in the fact that Havvy had produced her key to the God Wall—this Jorj X. McKie. Havvy had come to her with his heavy-handed conspiratorial manner.

"The Rim wants to send in a new agent. We thought you might..."

And every datum he'd divulged about this oddity, every question he'd answered with his transparent candor, had increased her tension, surprise and elation.

Jedrik thought upon these matters as she approached Havvy.

He sensed her presence, looked up. Recognition and something unexpected—a watchfulness half-shielded—came over him. He closed his book.

"You're early."

"As I said I'd be."

This new manner in Havvy set her nerves on edge, raised old doubts. No course remained for her except attack.

"Only toads don't break routine," she said.

Havvy's gaze darted left, right, returned to her face. He hadn't expected this. It was a bit more open risk than Havvy relished. The Elector had spy devices everywhere. Havvy's reaction told her what she wanted to know, however. She gestured to the skitter.

"Let's go."

"Yes . . . of course."

He pocketed his book, slid down and opened her door. His actions were a bit too brisk. The button tab on one of his green striped sleeves caught on the door handle. He freed it with an embarrassed flurry.

Jedrik slipped into the passenger harness. Havvy slammed the door a touch too hard. Nervous. Good. He took his place at the power bar to her left, kept his profile to her when he spoke.

"Where?"

"Head for the apartment."

A slight hesitation, then:

"Very good."

He activated the grapple tracks. The skitter jerked into motion, danced sideways and slid smoothly down the diway to the street.

As they emerged from the enclosing shadows of the parking spire, even before the grapple released them and Havvy activated the skitter's own power, Jedrik affirmed her decision not to look back. The Liaitor building had become part of her past, a pile of greygreen stones hemmed by other tall structures with, here and there, a gap to the cliffs and the river's arms. That was part of her life which she now excised. Best it were done cleanly. Her mind must be clear for what came next.

Havvy drove with his usual competence, not overly proficient but adequate. His knuckles, however, were white on the steering arms. He at least had enough good sense to fear her. Jedrik allowed the emotion to ferment in him while she studied the passing scene. There was little traffic and all of that armored. The occasional tube access with its sense of weapons and eyes behind the guard slits—all seemed normal enough. It was too soon for any hue and cry after an errant senior liaitor.

They went through the first walled check point without a hitch. The guards were efficiently casual, a glance at the skitter and their identification brassards. The danger with routines, she told herself, was that they became boring very soon.

The streets became a shade wider and more open as they climbed on the normal ring route.

Jedrik turned, studied Havvy, the way he appeared to concentrate on his driving with an air of *stored-up* concentration. Perhaps that was the key to Havvy. He knew his own deficiencies, knew it was not right for him to hold a driver's job, even for the middle echelons, when the Warrens were jammed with others avaricious for any step upward. Obviously, Havvy contained valuable secrets which he sold at a hidden market. She had to nudge that hidden market now. It must appear faintly clumsy, as though the events of this day had disturbed her timing.

"Can we be overheard?" she asked.

This made no difference to her plans, but it was part of the clumsiness.

"I've disarmed the transceiver," he said. "It'll look like a simple breakdown."

To no one but you, she thought. But it was the kind of infantile response she'd grown accustomed to from Havvy. She picked up the gambit.

"You expected that we'd require privacy?"

He almost shot a startled look at her, caught himself, then:

"Oh, no! It was a precaution. I have more information to sell you."

"But you gave me the information about McKie."

"That was to demonstrate my value."

Oh, Havvy! Why do you try?

"You have unexpected qualities," she said and marked that he did not even detect the first level of her irony. "What's this information you wish to sell?"

"It concerns this McKie."

"Indeed?"

"What's it worth to you?"

"Am I your only market, Havvy?"

His shoulder muscles bunched as his grip grew even tighter on the steering arms. The tensions in his voice were remarkably easy to read.

"Sold in the right place, my information could guarantee maybe five years of easy living—no worries about food or good housing or anything."

"Why aren't you selling it in such a place?"

"I didn't say I *could* sell it. There are buyers and then there are buyers."

"And then there are the ones who just take?"

There was no need for him to answer and it was just as well. A barrier dropped in front of the skitter, forcing Havvy to a quick stop. For just an instant, fear gripped her and she felt her reflexes prevent any bodily betrayal of the emotion. Then she saw that it was a routine stop while repair supplies were trundled across the roadway ahead of them.

Jedrik peered out the window on her right. The interminable repair and strengthening of the city's fortifications were going on at the next lower level. Memory told her this was the eighth layer of city protection on the southwest. The noise of pounding rock hammers filled the street. Grey dust lay everywhere, clouds of it drifting. She smelled burnt flint and that bitter metallic undertone which you never quite escaped anywhere in Chu, the smell of the poison death which Dosadi

ladled out to its inhabitants. She closed her mouth and took shallow breaths, noted absently that the labor crew was all Warren, all Human and about a third of them women. None of the women appeared older than fifteen. They already had that hard alertness about the eyes which the Warren-born never lost.

A young male strawboss went by trailing a male assistant, an older man with bent shoulders and straggly grey hair. The older man walked with slow deliberation and the young strawboss seemed impatient with him, waving the assistant to keep up. The important subtleties of the relationship thus revealed were entirely lost on Havvy, she noted. The strawboss, as he passed one of the female laborers, looked her up and down with interest. The worker noted his attention and exerted herself with the hammer. The strawboss said something to his assistant, who went over and spoke to the young female. She smiled and glanced at the strawboss, nodded. The strawboss and assistant walked on without looking back. The obvious arrangement for later assignment would have gone without Jedrik's conscious notice except that the young female strongly resembled a woman she'd once known . . . dead now as were so many of her early companions.

A bell began to ring and the barrier lifted.

Havvy drove on, glancing once at the strawboss as they passed him. The glance was not returned, telling Jedrik that the strawboss had assessed the skitter's occupants much earlier.

Jedrik picked up the conversation with Havvy where they'd left it.

"What makes you think you could get more from me than from someone else?"

"Not more. . . It's just that there's less risk with you."

The truth was in his voice, that innocent instrument which told so much about Havvy. She shook her head.

"You want me to take the risk of selling higher up?"

After a long pause, Havvy said:

"You know a safer way for me?"

"I'd have to use you somewhere along the line for verification."

"But I'd be under your protection then."

"Why should I protect you when you're no longer of value?"

"What makes you think this is all the information I can get?"

Jedrik allowed herself a sigh, wondered why she continued this empty game.

"We might both run into a taker, Havvy."

Havvy didn't respond. Surely, he'd considered this in his foolish game plan.

They passed a squat brown building on the left. Their street curved upward around the building and passed through a teeming square at the next higher level. Between two taller buildings on the right, she glimpsed a stretch of a river channel, then it was more buildings which enclosed them like the cliffs of Chu, growing taller as the skitter climbed.

As she'd known, Havvy couldn't endure her silence.

"What're you going to do?" he asked.

**"A Magnificent  
Novel and a  
Colossal  
Achievement...  
an instant  
Contemporary  
Classic."**

—SF Review



80867/\$1.95

Now on Sale from

**POCKET BOOKS**

"I'll pay one year of such protection as I can offer."

"But this is. . ."

"Take it or leave it."

He heard the finality but, being Havvy, couldn't give up. It was his one redeeming feature.

"Couldn't we even discuss a. . ."

"We won't discuss anything! If you won't sell at my price, then perhaps I should become a taker."

"That's not like you!"

"How little you know. I can buy informants of your caliber far cheaper."

"You're a hard person."

Out of compassion, she ventured a tiny lesson. "That's how to survive. But I think we should forget this now. Your information is probably something I already know, or something useless."

"It's worth a lot more than you offered."

"So you say, but I know you Havvy. You're not one to take big risks. Little risks sometimes, big risks never. Your information couldn't be of any great value to me."

"If you only knew."

"I'm no longer interested, Havvy."

"Oh, that's great! You bargain with me and then pull out after I've. . ."

"I was *not* bargaining!" Wasn't the fool capable of learning anything?

"But you. . ."

"Havvy! Hear me with care. You're a little tad who's stumbled onto something you believe is important. It's actually nothing of great importance, but it's big

enough to frighten you. You can't think of a way to sell this information without putting your neck in peril. That's why you came to me. You presume to have me act as your agent. You presume too much."

Anger closed his mind to any value in her words.

"I take risks!"

She didn't even try to keep amusement from her voice. "Yes, Havvy, but never where you think. So here's a risk for you right out in the open. Tell me your valuable information. No strings. Let me judge. If I think it's worth more than I've already offered I'll pay more. If I already have this information or it's otherwise useless, you get nothing."

"The advantage is all on your side!"

"Where it belongs."

Jedrik studied Havvy's shoulders, the set of his head, the rippling of muscles under stretched fabric as he drove. He was supposed to be pure Labor Pool and didn't even know that silence was the guardian of the LP: *Learning silence, you learn what to hear.* The LP seldom volunteered anything. And here was Havvy, so far from that and other LP traditions that he might never have experienced the Warren. *Had* never experienced it until he was too old to learn. Yet he talked of friends on the Rim, acted as though he had his own conspiratorial cell. He held a job for which he was barely competent. And everything he did revealed his belief that all of these things would not tell someone of Jedrik's caliber the essential facts about him.

Unless his was a marvelously practiced act.

She did not believe such a marvel, but there was a cautionary element in recognizing the remote possibility. This and the obvious flaws in Havvy's character had kept her from using him as a key to the God Wall. She could not tolerate even the remote possibility that the key would break. Better to die herself.

They were passing the Elector's headquarters now. She turned and glanced at the stone escarpment. Her thoughts were a thorn thicket. Every assumption she made about Havvy required a peculiar protective reflex. A non-Dosadi reflex. She noted workers streaming down the steps toward the tube entrance of the Elector's building. Her problem with Havvy carried an odd similarity to the problem she knew Broey would encounter when it came to deciding about an ex-Liaitor named Keila Jedrik. She had studied Broey's decisions with a concentrated precision which had tested the limits of her abilities. Doing this, she had changed basic things about herself, had become oddly non-Dosadi. They would no longer find Keila Jedrik in the DemoPol. No more than they'd find Havvy or this McKie there. But if she could do this. . .

Pedestrian traffic in this region of extreme caution had slowed Havvy to a crawl. More of the Elector's workers were coming up from the Tube Gate One exit, a throng of them as though released on urgent business. She wondered if any of her fifty flowed in that throng.

*I must not allow my thoughts to wander.*

To float like an *aware* leaf was one thing, but she dared not let herself enter the hurricane. . . not yet. She focused once more on the silent, angry Havvy.

"Tell me, Havvy, did you ever kill a person?"

His shoulders stiffened.

"Why do you ask such a question?"

She stared at his profile for an adequate time, obviously reflecting on this same question.

"I presumed you'd answer. I understand now that you will not answer. This is not the first time I've made that mistake."

Again, Havvy missed the lesson.

"Do you ask many people that question?"

"That doesn't concern you now."

She concealed a profound sadness.

Havvy hadn't the wit to read even the most blatant of the surface indicators. He compounded the useless.

"You can't justify such an intrusion into my. . ."

"Be still, little man! Have you learned nothing? Death is often the only means of evoking an appropriate answer."

Havvy saw this only as an utterly unscrupulous response as she'd known he would. When he shot a probing stare at her, she lifted an eyebrow in a cynical shrug. Havvy continued to divide his attention between the street and her face, apprehensive, fearful. His driving degenerated, became actively dangerous.

"Watch what you're doing, you fool!"

He turned more of his attention to the street, presuming this the greater danger.

The next time he glanced at her, she smiled, knowing Havvy would be unable to detect any lethal change in this gesture. He already wondered if she would attack, but guessed she wouldn't do it while he was driving. He doubted, though, and his doubts made him even more transparent.

Havvy was no marvel. One thing certain about him: he came from beyond the God Wall, from the lands of 'X,' from the place of McKie. Whether he worked for the Elector was immaterial. In fact, it grew increasingly doubtful that Broey would employ such a dangerous, a *flawed* tool. No pretense at foolhardy ignorance of Dosadi's basic survival lessons could be this perfect. The pretender would not survive. Only the truly ignorant could have survived to Havvy's age, allowed to go on living as a curiosity, a possible source of interesting data . . . *interesting* data, not necessarily useful.

Having left resolution of the Havvy Problem to the ultimate moment, wringing every last bit of usefulness from him, she knew her course clearly. Whoever protected Havvy, her questions placed the precisely modulated pressure upon them and left her options open.

"What is your valued information?" she asked.

Sensing that he bought life with every response, Havvy pulled the skitter to the curb, stopped and stared at her.

She waited.

"McKie. . . ." He swallowed.

"McKie comes from beyond the God Wall."

She allowed laughter to convulse her and it went deeper than she had anticipated. For an instant, she was helpless with it and this sobered her. Not even Havvy could be permitted such an advantage.

Havvy was angry.

"What's so funny?"

"You are. Did you imagine for a second that I wouldn't recognize someone alien to Dosadi? Little man, how have you survived?"

This time, he read her inference correctly. It threw him back on the only resource remaining, and it even answered her question.

"Don't underestimate my value."

Yes, of course—the unknown value of X. And there was a latent threat in his tone which she'd never heard before. Could Havvy call upon protectors from beyond the God Wall? That did not seem possible, given his circumstances, but it had to be considered. It would not do to approach her larger problems from too narrow a viewpoint. People who could enclose an entire planet in an impenetrable barrier would have other capabilities. Some of these creatures came and went at will, as though Dosadi were merely a casual stopping point. And the travelers from X could change their bodies; that was the single terrible fact which must never be forgotten; that was what had led her ancestors to breed for a Keila Jedrik.

Such considerations always left her feeling almost helpless, shaken by the ultimate unknowns which lay in her path. Was Havvy still Havvy? Her trusted senses answered: Yes. Havvy was a spy, a

diversion, an amusement. And he was something else which she could not fathom. It was maddening. She could read every nuance of his reactions, yet questions remained. How could you ever understand these creatures from beyond the Veil of Heaven? They were transparent to Dosadi eyes, but that transparency itself confused one.

On the other hand, how could the people of X hope to understand (and thus anticipate) a Keila Jedrik? Every evidence of her senses told her that Havvy saw only the surface Jedrik which she wanted him to see. His spying eyes reported what she wanted them to report. But the enormous interests at stake here dictated a brand of caution beyond anything she'd ever before attempted. The fact that she saw this arena of explosive repercussions, however, armed her with grim satisfaction. The idea that a Dosadi *puppet* might rebel against X and fully understand the nature of such rebellion, surely that idea lay beyond their capabilities. They were overconfident while she was filled with wariness. She saw no way of hiding her movements from the people beyond the God Wall as she hid from her fellow Dosadis. X had ways of spying that no one completely evaded. They would know about the two Keila Jedriks. She counted on only one thing: that they could not see her deepest thoughts, that they'd read only that surface which she revealed to them.

Jedrik maintained a steady gaze at Havvy while these considerations moved through her mind. Not by the slightest act did she betray what went on in her mind. That, after all,

was Dosadi's great gift to its survivors.

"Your information is valueless," she said.

"You already knew it!"

What did he hope to catch with such a gambit? Not for the first time, she asked herself whether Havvy might represent the best that 'X' could produce. Would they knowingly send their dolts here? It hardly seemed possible. But how could Havvy's childish incompetence command such tools of power as the God Wall implied? Were the people of 'X' the decadent descendants of greater beings?

Even though his own survival depended on it, Havvy would not remain silent.

"If you didn't already know about McKie, then you . . . you don't believe me!"

This was too much. Even for Havvy it was too much and she told herself: *Despite the unknown powers of 'X,' he will have to die. He muddies the water. Such incompetence cannot be permitted to breed.*

It would have to be done without passion, not like a Gowachin male weeding his own tads but with a kind of clinical decisiveness which 'X' could not misunderstand.

For now, she had arranged that Havvy take her to a particular place. He still had a role to perform. Later, with discrete attention to the necessary misdirections, she would do what had to be done. Then the next part of her plan could be assayed.

TO BE CONTINUED

\*\*\*

THE DOSADI EXPERIMENT



# RAY GUN evaporates MAINSTREAM



by Philip A. Schreffler

CAME ONE DAY startling news: Barry N. Malzberg and Robert Silverberg are withdrawing, or have withdrawn, or will shortly withdraw from writing science fiction. Malzberg explains himself in the pages of *F & SF*; Silverberg stuns a symposium audience with the revelation. And, perhaps not amazingly, the reasons they give for their decisions are the same.

They are giving up sf writing because nobody takes a serious science fiction writer seriously. Because sf isn't in the mainstream. It's not even, God help it, in a major tributary. No, sf is derelict in some brackish backwater—

drifting helplessly between the rusted hull of Verne's *Nautilus* and the body of Tom Swift's Electric Sheep.

It's not really that science fiction is bankrupt. It's just that, dammit, the mainstream fiction boys are so *serious*, and what hurts is that everybody knows it, everybody appreciates. Kurt Vonnegut spins yarns of Tralfamadorians and Ice-Nine and the professors in literature departments add him to their reading lists. John Gardner tells the Beowulf story from Grendel's point of view and graduate students murmur: "Dissertation fodder."

But if you're Barry Malzberg or

Robert Silverberg or any one of hundreds of other sf writers whose stuff has appeared in the pages of science fiction pulps, then you're not one of the Big Boys. And if you're serious, if you're an artist, you might as well pack up your afterburners and get out.

No.

Absolutely no. Why? Because that BEM that so frightens all of us who love science fiction and fantasy, and anyone who ever dreamed of being an artist someday—that particular shambling, half-seen monster is a fraud. In short, the mainstream is a twentieth-century shibboleth created by the universities, the critics, the Gertrude Stein-style gatherers of literary coteries and the promotional divisions of the publishing houses. It's a mystic society with its own arcana, a secret handshake and a little gold lapel pin in the shape of Mount Parnassus. It's a campus fraternity that says: "We're in. And you, you poor sap, are out."

Back in 1850, in a little house in Pittsfield, Massachusetts, another poor sap was cranking out a supernatural sea story at breakneck speed. He'd made a deal with his publisher, and the publisher was setting the chapters of the novel into type as fast as the poor sap could spill ink onto paper.

Herman Melville was under considerable pressure. "Come on, Herman," his publisher would write to him, "you've got a deadline.

The typesetter is way ahead of you." Melville got flustered. He had written a character named Bulkington into *Moby Dick*, but he apparently couldn't remember just what he wanted to do with him. So in a chapter called "The Lee-Shore," Melville simply washed Bulkington unceremoniously overboard. Out of sight, out of mind.

*Moby Dick* appeared in 1851 and the critics responded favorably. They felt that it was one of the best sea stories they had ever read. They loved the lore of sailing that was told with such first-hand vividness. They pronounced the book the last word on cetology. If the American universities extant at the time had placed great emphasis on vertebrate zoology, *Moby Dick* might well have been adopted as required reading.

But, unfortunately for Melville, there weren't so very many universities at the time. And none of them—none—had Professors of American Literature; the field simply hadn't been invented yet. So nobody much noticed the Platonic philosophy in *Moby Dick*. Nobody perceived the chiaroscuro imagery, the biblical allusions. Nobody realized that Melville had read just about every book ever written and had incorporated all that knowledge into his masterpiece.

Nobody except his fans, Nathaniel Hawthorne to whom the book is dedicated and Walt Whitman who saw fit to address Melville

le's theories of man and the universe in "Song of Myself."

Then around the turn of the century, a funny thing happened. Somebody got the bright idea that British critic Sydney Smith's question "Who ever reads an American book?" might be sanctimonious tripe. Somebody got the idea that Americans might have something to say. By 1920, the critics had grabbed harpoons. "After the White Whale!" they cried, almost as a single voice. And they've been chasing that wonderful, elusive, serene beast ever since.

But the poor sap who had set the submarine leviathan in motion, who had loosed the raving Ahab, who wrote because he was delirious with cosmic truth, who endured the maelstroms of publisher and poverty, never lived to see the chase.

But those days are all over now. We live in the enlightened twentieth century. We are perceptive and wise. We have Professors of American Literature. Our critics are broad-minded. And great artists don't starve. Old Melville never had these sages to fawn over him; he was never invited to be anybody's writer in residence with a Guggenheim Fellowship and a fat stipend to pay the bills.

And, friend, that's what the mainstream Big Boys have today.

Yet Americans have never been very good at taking the lessons of history. Yes, we say, there were a lot of sea story writers in the

nineteenth century; and, yes, a couple of them turned out to be mainstream writers. But really, it's just too, too much to suggest that we should pay any attention to the comical likes of Malzberg and Silverberg and the others who write those juvenile tales of golden ships that sail the seas of space! I mean, *Moby Dick* is one thing, but science fiction is quite another.

I don't suppose that the obvious, simple-minded contradiction contained in that statement needs any more said about it.

But there is another problem that sf writers have to contend with. Traditionally, there has only been one major plot line in the Great American Novel: Innocent young man encounters evil, falls from innocence and is crushed in the fall. If you want to understand American literature, you've got to understand that. Hawthorne wrote this novel, Melville wrote it, Henry James wrote it, Fitzgerald wrote it. And, by God, the mainstream novelists are still writing and revelling in it.

Even this plot idea, this theme of initiation, though, has run into some trouble. So the newest mainstream tactic is to deemphasize the plot line and to direct our attention to the process of writing itself. In effect, the mainstream boys now say: "Never mind what I'm doing. Just look at how I'm doing it!"

This is all rather complicated, I'm afraid, but the point is simple. Ever since we've become aware—

so painfully aware—of ourselves as literary artists, we've been scrutinizing every move we make at our typewriters. We haven't been rushing to our typewriters to bang out grand melodies. We've been agonizing there with the brooding paranoia that Somebody Up There might think we're pulp magazine hacks. We want so very much to be respectable, to be a part of What's Going On. We want to be—

Mainstream.

We want to lisp along with Truman Capote on the *Tonight Show*. We want to hang around Elaine's or The Algonquin in New York, those two great gathering places of literary culture. We want to stroll over to Norman Mailer and say—actually

to say—"Hello, Norman."

Well, I say to hell with Norman. And the universities that scorn sf. And the critics who condescendingly allow that sf may deal well with the impact of science on society and little else. I say write what makes you warm in the blood, what shakes you with sanity. I say write the truth. And I say don't jump ship just to get into the mainstream.

Because out here, among us, there may be a Nathaniel Hawthorne or Walt Whitman who hears what serious science fiction and fantasy is saying. We believe.

And there, among you writers of dreams and marvels, there may be a poor sap like that bearded harpooner in Pittsfield. ★

# A NIGHT TIDE

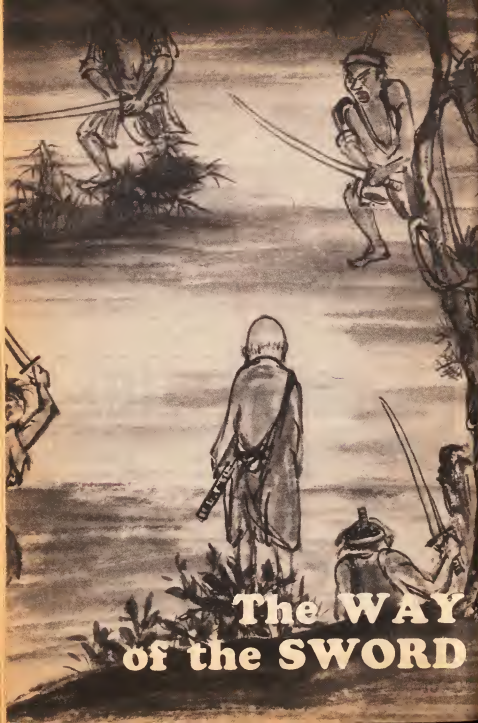
BY JON INOUE

FANTASTIC STORIES  
THAT WILL TAKE YOU  
TO WORLDS AND  
REALMS OF MYSTERY —  
HORROR —  
ENCHANTMENT &  
PLEASURE. **\$1.95**



A FANTASTIC  
SF ANTHOLOGY

RANDEN  
P. O. BOX 3157  
CULVER CITY, CA.



# The WAY of the SWORD

Dennis Schmidt

Where there is Will  
there is no Way . . .

I. —

**J**EROME LOOKED DOWN AT DEATH.

It was no surprise. He had expected it long before he topped the rise and gazed down into the small valley; he had seen the thin column of smoke that had slashed the dawn like an exclamation point, and had watched the lazy spiraling of the carrion lizards over the spot it marked.

He recognized the signs. Death had come to his own family the same way. Once that same sentinel of smoke, those same patient, leathery wings, had hovered like a beacon of doom over his childhood home, the farmstead at Waters Meeting.

The Ronin had come screaming out of the night. They had raped and slaughtered his mother, tortured and murdered his father. His sister had died quickly, her brains splattered against the door frame as one of the raiders swung her round and round by her heels. He, a tiny, ter-

rified boy huddling beneath a pile of sacks where his mother had thrust him as the Ronin broke down the cabin door, had watched the whole thing.

He alone had survived. That was unusual. The Ronin were viciously thorough, seldom leaving anything alive, man or beast, on any farmstead they attacked. Yet somehow no one had bothered to check the pile of sacks beneath which he cowered.

Later, when the Ronin had put the farmstead to the torch and had gone howling off into the night, he had managed to drag his parents' mutilated bodies from the inferno. The roof and walls collapsed before he could pull out his sister.

The next morning, the Fathers from the nearby Brotherhood had followed the thin column of smoke and the circling carrion lizards to where the young boy sat, crying, but calmly adjusting his mother's clothing and shooing away the most insistent lizards.

That had been fifteen years ago. But the world had not changed, and Jerome knew what to expect as he, in his turn, followed the column of smoke and the circling lizards.

He paused for a moment at the smashed, sagging gate of the pathetically inadequate stockade. The Ronin had simply shattered it, using a log as a battering ram. What had not burnt leaned at crazy angles, only waiting for time or a strong wind to send it tumbling. Down on

the coastal plains, where Man had first settled after landing the great Arks on Kensho, Jerome knew that homesteads often possessed stout stockades, capable of withstanding all but the most determined assaults. But here, high up in a remote mountain valley on what was virtually Kensho's frontier there was less time to be spared from grubbing a living from the stony land; you simply took your chances. This family's luck had run out.

For a moment longer he stood, calming his mind, steeling himself for what he knew awaited. Regulating his breathing, he silently let the Litany of Passivity roll softly through his mind. "Moons, moons, shining down on waters, waters . . ." As ready as he would ever be, he stepped through the gate and entered the smoking charnel house.

Still, what he found sickened him. There had been five in the family. The boy had been about nine. The two girls perhaps six and two. It was hard to tell; there was little left of them. The Ronin had literally hacked the bodies to pieces and the fire had disfigured what was left.

He rummaged about the smoldering ruins, keeping a tight rein on the revulsion and anger he felt. It took all his training to contain himself, to wrap his seething inner turmoil in a calm exterior. But it was necessary. On Kensho, no man lived long if he could not control his emotions. That was why all men

studied the Way of Passivity, why everyone practiced its spiritual exercises and physical disciplines. With a little training in its techniques a small group, even a family of five or six, might live in peace on a farmstead. With more training, larger groups, as many as sixty or seventy, might dwell in harmony in a Brotherhood.

Yet even then the invisible Mushin hovered, ready in an instant to swoop down and feed should control falter. For the voracious mind leeches of Kensho fed on men's emotions. Using some kind of feedback technique they ran emotions back through the victim's own mind, making them stronger and stronger in an ever-increasing spiral, until the mind exploded into screaming Madness. Then, in a swirling horde, the Mushin fed, until all that was left was a drooling, gibbering husk.

Jerome shook his head in denial. If any Mushin were still lurking about, they would get nothing from him. They had feasted enough last night!

He rummaged about the smoldering ruins, keeping tight rein on the revulsion and anger he felt. The Mushin had feasted enough last night. They would get nothing from him. Nothing!

In a sod shed which had not burned, he found a shovel. On a grassy knoll north of the house he dug a shallow pit. Then he went back to the ruin, shooed away the

carion lizards, and, in some old sacks also discovered in the shed, he stuffed what he could find of the family. He didn't bother to sort out the pieces. They wouldn't care anyway: when one sack was full, he filled the other. Both were dragged to the pit, thrown in, and covered with the crumbly grey soil the 'steader had tilled in life.

He paused for a moment over the freshly-filled grave. There should be something he could say, some fitting memorial for the massacred family. Some phrase that might exorcise the ghost of memory that arose on seeing in others the fate of his own family.

His mind was blank. Faced with real, palpable death, he could only feel a dull grief for himself, his family, and these nameless, hapless 'steaders. There was nothing he could say about the tragedy. It was too total, too awful, too ordinary.

Yet as he stood there, the dull ache began to fade before a rising glow of rage. The Mushin, he thought. That's where it all lies. The Mushin. The Ronin are nothing but tools, men who enjoy the blood-lust, the Madness, the intensified thrill of killing which the presence of the Mushin gives them. The Ronin live to kill, and the Mushin live off the blazing lust and searing emotions the Ronin feel as they kill. Get rid of the Mushin and the Ronin will quickly fade.

Get rid of the Mushin. Until Man could escape the Mushin he was

doomed to a miserable existence here on Kensho, huddling in constant terror on the farmsteads or hiding in fear behind the skirts of the alien Grandfathers in the Brotherhood. Until Man found a way to strike back at the invisible enemies that fed off his emotions and brought the Madness, he would stagnate, never growing nor expanding, never achieving his purpose here on Kensho, never fulfilling the idea behind the Great Pilgrimage.

Nothing I say over this grave will make any difference, he realized. Nothing I say anywhere will make any difference. Only what I do can make a difference.

Action. Action against the Mushin. That was the only hope. The Fathers, the Grandfathers, the whole Brotherhood; they were wrong. The Way of Passivity was not enough. Building passive defenses against the Mushin was not enough. There must be action, an active seeking out of ways to fight back.

Action. If he succeeded in his quest, if the Way he sought did reveal a way to fight back, then he would be raising a monument, a memorial to this family and to every family that had ever been slaughtered by the Ronin. He would be avenging every human ever driven to the Madness by the Mushin.

Jerome turned from the grave. There was nothing to say. But there was a great deal to do.



## II.

For the rest of the morning Jerome followed the tracks of the Ronin. At first he cursed the luck that had put them on the same route he planned on taking. Like him, they were heading up the slopes of the Mountain.

At all costs, he wanted to avoid them. As near as he could tell, there were five or six in the band. That was an unusually large number. Two or three was more common. For Ronin were as dangerous to each other as they were to other men. When no easier prey was at hand, they would fall on the members of their own band, killing and destroying each other with the same fierce abandon they practiced on the 'steaders. In larger bands the tensions between the members were greater and so were the chances of mutual mayhem. No Ronin lived long, but at least those who ran in small packs had a better chance.

In any case, there were at least five of them, all armed with swords. And there was only one of him, armed merely with the knife he had brought when he left the Brotherhood and a wooden staff he had cut at the edge of the Wood. Even if he'd had a sword, one Sixth Level Son, no matter how polished his technique, was no match for half a dozen Mushin-crazed Ronin.

But what was the best way to avoid them? He could climb out of

the valley and cut across the ridges, hoping to find another valley up which he could travel. Or he might stick to the ridges, though the going would be rough. But in either case, he still might cross their path. As long as they remained above him on the slopes, there was no way he could be sure of avoiding them.

He had finally decided that the wisest course was to stick with the known and follow the Ronin as long as they stayed in this valley. That way he would always know approximately where they were. But he'd have to travel cautiously to avoid closing with them from behind.

As he moved up the valley, all senses alert for any sign of the Ronin, the forest closed in slowly from the ridges until it filled the valley from rim to rim. Soon his view of the Mountain, shining in the morning sun, was cut off. More important, his view ahead was cut down drastically. The woods were not thick, but all the same, he could barely see a few hundred feet ahead into the gloom and undergrowth. The blazes of sunlight that broke through the forest cover here and there only served to emphasize the shadows without improving the visibility.

When the sun had climbed to the highest point in the sky Jerome rested for a while. He drank from a small stream that gently splashed its way between the trees and ate the fruit of the ubiquitous and ever-bountiful Ko tree. The gentle

warmth of noontime, the quiet solemnity of the forest, soon lulled him into a half-dozing state.

\* \* \*

His body relaxed and calm, Jerome let his mind wander down the path of his past. It passed swiftly down the valley, touching a tone of grief as it sped by the smoldering ashes of the raided farmstead with its fresh hilltop grave. Down, down it went, to the edge of the Wood. There it stood for a moment, gazing out over the Great Valley, as had Jerome himself less than a week before. The Brotherhood was in the distance. And beyond that, a mere smudge at the place called Waters Meeting, was the ruin of the farmstead where he had lived and his family had died.

More slowly now, almost reluctantly, his memory trod the ground over which he had fled that night when leaving the Brotherhood. Into the Brotherhood it crept, back even to the practice yard where he had been sweating in the sun the day he received the summons to appear before the Grandfather for Audience.

With sorrow at the thought, he remembered how excited he had been, how full of hope for the future. He had been so sure the alien Grandfather would not deny his request, so sure! Father Ribaud, the gentle old Swordmaster of the Brotherhood, had tried to warn him, tried to offer counsel.

But Jerome had ignored him. Impatient, filled with the importance and urgency of his vision, he had ignored all the warnings, even the fact that the alien Grandfather had long ago forbidden any Brother to study the Way of the Sword with the Old Master on the Mountain. In his enthusiasm, he had chosen to reject the Grandfather's edict that the sword was but a preliminary step on the True Way, that it was but a preparation for the Passivity. He had denied the experience of seven generations of men on Kensho, the wisdom of the Grandfathers, the alien beings who had saved his race from the Mushin and the Madness, the very teaching of the Way of Passivity to which man clung to for dear life. All, all he had refused to heed. No matter that the Way of the Sword was declared too active, no matter such activity threatened to attract the Mushin and bring down the Madness. He desired to follow the Way of the Sword. He knew, deeply, surely, that somewhere on that path lay the means of saving his race from the Mushin.

And then, during the Audience, the Grandfather had done something to his mind, had tried to take it over. In a flash of terror, anger, and sudden intuition, Jerome had seen a link between the alien Grandfathers and the Mushin. A link between mankind's benefactor and mankind's greatest enemy.

The result had been an explosion of rage. In one, swift movement, he

had stood and struck the Grandfather with his open hand. And had knocked its head off its body.

Although the murder had gone undetected by the Fathers of the Brotherhood or by the Mushin, still Jerome had realized he could not remain; he must flee before discovered. He had decided to follow his original plan and seek out the Old Master on the slopes of the Mountain and study the Way of the Sword with him.

Silently, with the light of Ken-sho's moons to guide him, he had climbed the wall of the Brotherhood and become a Seeker of the Way.

\*\*\*

Suddenly he sat bolt upright, all drowsiness vanished in an instant. He strained to hear. Off in the distance he could barely make out a high-pitched yelping. It was instantly joined by a chorus of other yowlings, mewings, bellowings, an unholy choir of animal sounds that could only come from the throats of crazed men.

The Ronin! Somewhere up ahead of him the band had run across prey and was giving chase!

Casting all caution to the winds, Jerome ran crashing through the forest in the direction of the howling. Sometimes 'steaders built their cabins in the clearings that dotted the Wood. They tilled the rich soil to be found there. Perhaps the Ronin had found one such family

and even now were attacking.

As he ran, dodging the major branches, accepting the constant swattings he took from the smaller ones, he calmed his mind. It was foolishness to run headlong into combat with six armed Ronin, but what could he do? His own experience, his recent discovery of the family down the valley, his very sense of humanity, made it impossible to stand by and take no part while Mushin-crazed Ronin massacred another family.

Abruptly the forest came to an end and Jerome all but tumbled out onto the soft turf carpeting a clearing. He pulled himself upright and came to a skidding halt. Like a solid wall, the combined presence of hundreds of Mushin struck his mind. The usual tingling that gave away their presence was a virtual burning.

With frantic haste Jerome closed down his mind, asserting the controls taught him by the Fathers. He began chanting the Litany of Passivity to calm himself. "Moons, moons, shining down on waters, waters, moving slowly, moons moving slowly, yet being still. Still the waters, still the moons. Movement, strife, all longing is but a reflection, passing to stillness when the mind is calmed."

Looking around he located the Ronin and their prey. The six were in a circle surrounding a lone man. The victim was dressed in a robe of coarse homespun. He was old, his

hair a shining white blaze in the light that poured into the clearing.

Calmer now, Jerome began to notice other things. The old man had a sword, but it was still sheathed. He stood quietly in the middle of the circling Ronin, silent and unruffled. His head was bowed as though he were concentrating on a bug crawling in the grass at his feet.

Jerome hesitated. The Ronin had not seen him. They were too intent on their prey. And there was no way they could have heard his crashing approach, because their own howlings were so loud they drowned out any other sound. Nor did the Mushin sense his presence, so tight was his control. But what should he do?

Before he had time to decide, the Ronin stopped circling and rushed in to attack their victim. The raider standing directly behind the old man was in the lead, hoping to make the kill from behind, his sword raised, flashing in the light, his mouth open in screaming anticipation of the slaughter.

Without looking to right or left, the old man's head snapped up and at the same instant he drew his weapon. But rather than moving forward, he stepped back and simply slid the sword backward, impaling the charging attacker behind him. In and out the blade flicked, and the howling changed to a choked gurgle as the Ronin collapsed in a heap. As the prey had

drawn his sword, those attackers in front had checked their headlong assault, expecting him to come toward them. Now his sword swept around leftward from behind slicing through the ribs of the raider there, just below his upraised arms. The arc continued, flinging blood behind it, across the front, barely missing three madly backpeddling Ronin, and catching the one on the far right who had failed to move in time. Both his wrists were cut through, his sword, hands still holding it, sailed lazily through the air. Now the old man's sword turned in mid-air, reversing its sweep, coming down and under, the tip almost touching the grass. The raider on the left, seeing the man on the right fall, had stepped in to strike. He met death as the blade swept under his guard, entering his body at the groin and leaving just under the sternum. The old man stepped back, pulling the flying sword with him, cutting edge upper-most. Stepping forward and to the left, he isolated the far right Ronin behind his companion, allowing him to deal with them one at a time. As the sword had flicked in, it flicked back out, catching the closest man in the throat. A quick step, a final thrust, and the last of the killers lay gurgling out his life in the clearing.

With a mighty sweep of his sword, a sweep which spat blood and flesh in a centrifugal fountain of gore, the old man cleaned his blade. Then, with a deft movement,

he returned it to its scabbard and stood quietly gazing at the huddled bodies surrounding him.

Utterly stunned, Jerome stood rooted to the spot, barely able to breathe. It had all lasted the merest second, the flicker of an eyelash. While Jerome had been trying to make up his mind, the old man had settled the issue completely and finally.

And what swordsmanship! Never in his fondest dreams had Jerome ever even imagined such a display. The sword had flown on its way, without pause, without uncertainty, without ever missing its mark! It was as though the blade itself had been alive, seeking and finding the vulnerable spots in its enemies' defenses as surely as the Ko-bee finds the just-opening blossom, as lightly as a fluff-fly fluttering in a beam of moonlight. A sense of awe spread through Jerome.

"You may approach. They are all dead." The old man's voice carried across the clearing the way Father Ribaud's had in the practice yard at the Brotherhood. It was low, calm and strong, pitched just right to be heard clearly and distinctly even at a distance. "Come. Even the Mushin have left to seek new prey. There is nothing here to feed on. I have no emotions and yours are under right control. The only thing this pile of carrion will draw now is a flock of lizards."

With a huge shake to loosen his taut muscles, Jerome moved softly

across the clearing until he was standing next to the old man. The whole situation held a quality of dream to it, a sense of unreality, of things barely considered, half glimpsed in surprise.

The swordsman sighed hugely. "Help me gather up their swords. It would be wasteful to let them rust away."

Still dazzled, Jerome bent to the task without question. A thought was slowly rising to consciousness. With it came a sense of excitement almost too intense to bear. He had been on his way up the Mountain to find the fabled Old Master and study the Way of the Sword. What he had just witnessed was without a doubt the most incredible display of swordsmanship ever seen. This old man dressed in homespun, bending down next to him to relieve the dead Ronin of their swords, this man must be the Old Master himself!

Jerome straightened, two sheathed swords in his hands. He held them out to the old man. The white-haired swordsman looked at him quizzically, his own hands full with the other four swords. "Am I to grow two new hands to hold them all?" He laughed lightly. "Keep one yourself, for I see you go unarmed. A dangerous habit in a world where rabble like this," he indicated a fallen raider with a sandaled foot, "wander about at will."

Trembling with the intensity of his excitement, Jerome tried to

speak. "I . . . I . . . you must be the Old Master," he blurted out.

The man in the homespun robe cocked his head to one side, a amusing smile spreading across his features. "Master? I? You must be mistaken. I'm merely a hermit who lives far up the slope of the Mountain. No Master, I. Just a hermit."

Jerome stood, befuddled. "But . . . but . . . you must be the Master, the True Master Father Ribaud talked of. Surely you remember him. He was one of those who came up from the Brotherhood many years ago to study the sword with you."

Laying down the four swords he held and taking the two Jerome offered, the old man shook his head in negation. "Ribaud? No. The name means nothing to me. Perhaps you refer to the hermit who lived in the hut before me. Perhaps he knew this Ribaud."

His confusion growing, Jerome blurted out, "But I've never seen or even dreamt of such swordsmanship! Don't you see? I've left the Brotherhood, come all this way to study the Way of the Sword with you. You must be the Master!"

"I don't 'must' be anything," the other replied sharply. "Least of all a True Master. Or even a plain Master. I've never studied the Sword nor any other way. Such nonsense is for the Brotherhood, not me." He bent down and tied a cord around the six swords. "Now, if you're not interested in one of these

swords, I'll be going back to the peace and quiet of my hut. I've better things to do than stand about chattering with a young fool." With that, he hoisted the bundle of swords on his shoulder, and, stepping over the corpses, headed for the woods at the edge of the clearing.

For a few moments Jerome just stood there, too surprised to move. Then with a curse, he started after the old man, hurrying to catch up. This is the Master, he thought. I know it. But Masters are notoriously hard to deal with and this one has not had a student in many years. But I will not give up. This way lies my path.

Up the Mountain the old man tramped, occasionally looking over his shoulder at Jerome and muttering his irritation. Stolidly, relentlessly, silently, Jerome followed the Master.

Only the dark of the forest kept him from seeing the glint of secret pleasure or the rare smile of satisfaction that lit up the old man's eyes as he turned and saw the young man still behind him.

### III.

The light was fading from the sky by the time they reached the Master's hut. The old man went inside and rudely slammed the door in Jerome's face. The young man sighed and sat down on the ground a few yards back from the door. He

took the makeshift pack from his back and spread out his few belongings. From some stale Ken-cow cheese he had found at the ruined farmstead and some dried Ko-pods, he made his meal. As the sounds of night grew, so did Jerome's weariness. It had been an exhausting day. His eyes heavy, he lay down on his spare robe and was soon fast asleep.

\* \* \*

He awoke to the sound of the Master clattering about in the hut. The sun was not yet up, but the largest of Kensho's moons flooded the woodscape with its blue light. Jerome broke fast with the last of his cheese and Ko-pods and then went to the little stream that trilled its way downhill nearby. He splashed water over his face. The clear cold of it woke him thoroughly.

Now what to do? He decided it would be useless to approach the Master again, demanding to be allowed to study with him. He would simply have to play a waiting game, staying around, doing things, until the Master came to accept him by the mere fact of his very presence. It would take time. But time was about the only asset Jerome had.

When the Master finally came from his hut, stretching and yawning, wearing the same homespun robe as yesterday, he ignored the young man sitting patiently a few yards away. As the old man mum-

bled about the edge of the clearing, looking for small twigs to start a fire, Jerome let the Litany of Passivity wash through his mind, clearing and calming it, schooling him to patience, to acceptance.

After the Master re-entered his hut and shut the door with a bang, the young man rose and went into the woods. For a while all was silent in the little clearing, but for the buzzing of the Ko-bees and the occasional cry of a tree lizard. Eventually a huffing and crackling of something coming through the woods shattered the peace. The next instant, Jerome appeared, almost invisible beneath a pile of dry wood he had gathered. He staggered across the clearing to the hut and dumped the pile next to the door. Then he returned to his place and resumed his meditation.

The sun rose higher and spilled a sideways glance into the small clearing on the slope of the Mountain. The Master emerged from the hut once more and shuffled off across the open space and into the forest. Jerome rose and followed on soundless feet, more the Master's shadow than his companion. A short walk through the woods brought them to another clearing where the Master tended his garden. Silently, the two of them bent over the rows, weeding and tending the plants. The sun beat down equally on their heads, bringing sweat to both brows. Noon came and the old man left the clearing and the gar-

den. He walked into the woods to where the stream wandered about. After drinking he gathered a few handfuls of berries and wild fruit pods, then squatted by the side of the stream, munching his frugal fare, watching the young man who copied his every move.

Finishing his meal, the Master rose and began stalking determinedly through the woods as though on his way to an important appointment. Behind him, Jerome scurried to keep up. Eventually the striding old man and the scurrying young one came to a place in the forest where nothing grew but a huge Ko tree. Jerome craned his neck and tilted back his head. The top of the tree was lost amid the confusion of its own branches. At its base, the trunk was easily forty feet around.

Close to the base, in the deep shade of the branches, the Master took his seat, facing outwards. He crossed his legs, adjusted his hands, regulated his breathing and went into the meditation state known as "not-here-not-there." Seating himself about two yards in front of the Master, facing inwards, Jerome adopted a similar posture and went into the meditation state known as "waiting-with-awareness."

For hours the two were still while the forest went about its life.

As the sun's rays reddened with the coming of evening, the old man arose silently from his position and walked back to the garden. Trailed

by Jerome, he picked a few vegetables and returned to the hut. Again he slammed the door, denying the young man access. Jerome made a cold meal of the vegetables he had harvested, washed it down with even colder water from the stream.

Eventually, since the Master did not venture forth again from the hut, Jerome lay down and went to sleep.

In this way many days passed softly, hardly leaving any trace behind them, so similar were they all.

\* \* \*

Suddenly one morning everything changed forever.

Jerome awoke knowing that someone was standing over him. He opened his eyes the barest slit, keeping his body relaxed and ready. Feet. With ragged old sandals. Knotted, tough calves. The hem line of a homespun robe.

It was the Master. Jerome opened his eyes fully and sat up.

The Master squatted, peering into his eyes, his face only a few inches from Jerome's.

"Who are you?" Abrupt. Harsh.

"Jerome."

"What are you?"

"A Seeker."

"What do you seek?"

"The Way of the Sword."

"Why?"

The question reverberated through Jerome's entire being. Why, why, why, why, why, why. . . . ? Be-



cause the Sword had shattered his life. Because the Sword had murdered his parents. Because the Sword had shaped his life in the Brotherhood. Because the Sword had led him up this Mountain to this very spot. Because the Sword might be the key to setting his race free from the Mushin. Because the Sword represented Death and Life and Despair and Hope. Because the Sword. . . why, why, why, why, why. . . ? Why? A million "Becausees."

And yet, and yet . . . Why? Was there any answer to that question? Were "becausees" answers? Why? Was he here to save his race? Who or what had appointed him Savior? Was he here to avenge his parents? Was there any way to achieve that revenge? Why?

The Master stared hard at the lad, his eyes burning deep, deep into the mists of confusion so thinly disguised in Jerome's own eyes. Why? The Master waited. Jerome must answer, something, anything.

And Jerome knew the answer was crucial. He knew his whole future hung on it. He knew the Master would accept or reject him on the basis of it.

He also knew he had no answer.

"I don't know."

With a grunt, the Master rose and stood looking down at him. "Well, at least you're honest. You don't know the reason why you want to study the Way. Or rather, you know too many reasons. Your mind is

like a flock of birds, each bird a reason, each seeking to roost on a single limb. As soon as one settles, another lands and jostles the first off the limb."

Confused, Jerome blurted, "What must I do? Must I allow only one bird to land? Must I get rid of the others?"

"Rid yourself of all the birds. And the limb."

The young man stared blankly at the old one. Finally the Master sighed, "Enough of birds. There are no birds."

"So. The long and short of it is you wish to study the Way of the Sword. For whatever reasons."

"There is danger here. Many are the paths one may follow on the Way. Some are broad and gentle. Others follow the high, rocky places. Great chasms yawn on all sides. And one slip plummets the seeker into the depths of the Madness."

"For on all paths, on the Way, the Mushin lurk. They are always ready to seize on any emotion not hidden, to reinforce it, to feed it back into the mind, thus starting a spiralling growth that drives the mind to raving Madness. Then as the mind dies, they feast."

"This," the old man continued, as if reciting a litany, "is what they did to us when first we arrived here on Kensho. We were unprepared for them. Our surveys of the planet showed no evidence of their existence, no sign of higher life, no

mark of civilization, nothing but primeval wilderness. So satisfying was the very vision of it hanging there in space, that Admiral Nakamura named it "Kensho" after the first stage of Enlightenment."

"Then the Arks landed at First Touch, far off down the Mountain, down the Valley, across the Plain, by the Sea, and everyone went mad, tearing at each other, murdering, maiming. Like vicious, wild animals. It was the Madness. It blew the Colony apart and scattered the raving, killing, human debris across the landscape."

The Master looked down at the young man. "I know you've heard all this. But you must hear it again. You must know what you risk. For you risk what they risked. The Madness. True, you have defenses they did not. You have the Passivity, the disciplines and exercises the alien Grandfathers taught our race to preserve us from the Mushin. And by now, you may even have some sort of natural defenses, developed by the force of natural selection and the terrific pressures of the last seven generations. But still, the risk is real."

Jerome swallowed hard. "I know this. Still I would be a Seeker of the Way even if the Madness were inevitable. I can do no else."

For a moment the old man stood there gazing down at the young one, sadness filling every wrinkle on his weatherbeaten face. Then the sadness melted and sternness re-

placed it. "Very well," he said brusquely. "Come with me." He turned on his heel and stalked to the hut.

The young man followed. The hut consisted of three small rooms. One, barely more than a large closet, was without a door. It held at least a hundred sheathed swords, scattered and piled about in no apparent order. On top of the pile, Jerome noticed the six swords the Master had collected from the Ronin he had slain down the valley. The second room, likewise doorless, contained a rough pallet and a grimy blanket. The final room, larger than the other two, held a crude fireplace hung with cooking utensils, several bins for storing vegetables, assorted cushions, and the Master's sword, hanging on the wall opposite the hearth.

From a corner, the Master took a handmade broom and held it out to Jerome. "Sweep the hut. Then prepare us breakfast."

#### IV.

Once again the days followed the sun over the horizon like identical beads on a string. There was no sense in counting them, no logic in keeping track. To number each would have been to differentiate it from all others, to name this the Day the Tree Lizards Sang, and that the Day They Didn't, one the Day that Brought Rain, another the Day the Sun Shone. But it was useless,

for even the differences repeated themselves, and even the similarities changed. It was a rhythm that needed nothing to complete or complement it.

Jerome's life was the same. He swept the hut, gathered firewood, carried water, tended the garden, cooked the meals, meditated, and then began the round again. Soon it became impossible, or at least unnecessary, to determine which was the first act and which the last. As long as one followed the other, order was preserved.

At first, Jerome was perfectly happy. To be in the Master's presence was enough. But as the days passed through weeks and into months, he became fretful. When was the Master going to teach him the Way of the Sword? Never once did the old man so much as touch the sword that hung on the hut's wall. Never did he even look in the smaller room filled with conquered swords. And his conversation was solely on matters domestic or personal.

Jerome's unease grew into dissatisfaction. He began to drop hints. He took some of the swords out of the small room and cleaned them until their blades shone. He made a wooden bokken and went through the motions of the practice forms, the katas, he had studied with Father Ribaud at the Brotherhood.

The Master ignored him.

Jerome's dissatisfaction grew into anger. He commandeered a real

sword from the storeroom and practiced his cuts on the air. He drilled his draws and repeated his katas with the naked blade.

The Master merely complained that the garden was not adequately weeded.

Anger fed on itself and became a barely concealed rage. The young man took to walking through the woods with his sword, slashing at small saplings and branches to test the trueness of his cut: it was ragged; his blade waffled, and the edges were not clean.

The Master could not help but notice such wanton destructiveness. Yet his only comment was to remark that if Jerome wished to cut green wood to smoke meat, an axe would be more appropriate.

The day came when Jerome knew he could contain himself no longer. He fought for control all morning, all through the weeding, all through meditation. When evening finally came he was beside himself. He decided to confront the Master.

By the time they had finished dinner, Jerome had inflamed his courage by stoking it with his anger. Abruptly, with no preamble (other than weeks of nervous fidgeting) he launched into his complaint. "Master. Why have you not taught me the Way?"

The Master looked up, mock surprise written across his face. "Not taught you? I? How is that so? Have I not let you sweep the hut, fix the meals? Have you not weeded

the garden, carried water, collected firewood?"

"But . . . but . . . You never show me any techniques, never drill me in my kata. You never teach me any advanced techniques or new kata. You never even speak of the Sword and the Way!"

"Techniques? Katas? Words? What have such things to do with the Way? The sword is not the Way. It is but a way to the Way.

"Why do you seek so far off for the Way? Do you think to find it like some rare mountain flower, hidden in a cleft in some isolated crag? The Way is here. It is in the broom, the firewood, the vegetables. It is in eating when you are hungry, sleeping when you are tired."

"But the Sword! I am not learning the Sword! How can there be a Way of the Sword without the Sword?"

"The Sword is the least important part of the Way of the Sword. He who has truly learned the Way of the Sword does not even carry a Sword. But I see what the problem is. You wish to become a Swordsman, and you confuse this with the Way of the Sword."

"How can they be different?"

"When the sun shines in the sky, you cannot grasp it. When the moon reflects in a pool, you cannot grasp it. Are they both then the same?"

The young man looked puzzled. "I don't understand."

The Master chuckled. "That I am aware of, Seeker. You do not understand.

"Very well, then, Seeker. You wish to be trained as a Swordsman. It is not the Way. But all in all, it is as much a way to the Way as sweeping the hut. It is a harder way, with much greater danger. It is a longer way, too. But, very well, if that is your wish, so be it. I will begin training you as a Swordsman tomorrow. You will have all you wish, training, exercises, words. May you live through it." The old man yawned, stretched, and then ambled off to his room. In a moment, he was blissfully sleeping.

Hours later, the excited Seeker finally managed to follow his example.

\*\*\*

The next morning, Jerome fixed breakfast as usual and then went out into the dew-wet woods to gather firewood and pick a few berries and Ko-pods. As he wandered about, his excitement began to grow. The Master had promised! He had promised to train him! He wondered what new forms he would learn, what wondrous techniques he would master. Perhaps someday the Master would even teach him the techniques he had used against the six Ronin! How hard he would study! He would spend hour after hour perfecting every cut and

stroke! The Master would be proud of him, just as Father Ribaud had been proud.

Without warning he felt a tremendous blow, a shattering pain, between his shoulder blades. He was thrown to the ground by its force, the wood and berries flying in all directions. Even though surprised, he remembered to roll as he hit, ready to spring to his feet and confront his attacker. Before he could even complete his roll another blow caught him on the side of the head. Dizzy, he tried to rise, holding his hands above his head to protect himself. A stunning slam doubled him over. With hands raised, his stomach was wide open.

The blows rained down. Jerome rolled and scrambled this way and that, trying to avoid them. His head spinning, his eyes filled with tears of pain, he tried to rise and face his tormenter. But there was never a moment's let up, never a chance to even call out to the Master for help, much less time to stand and run or fight.

All his training was to no avail. He tried to block the blows, but wherever he moved his hands, the attacker struck the place they had just left. With a terrible surge of effort, he managed to come to his knees, then staggered to his feet. Turning toward the blows, he faced his attacker. Ignoring the battering his ribs took, he raised his hands to shield his head, to wipe one eye clear, to see.

The Master struck him on the shoulder so strongly that he collapsed back to his knees. Then the Master lashed out again at his head and flattened him.

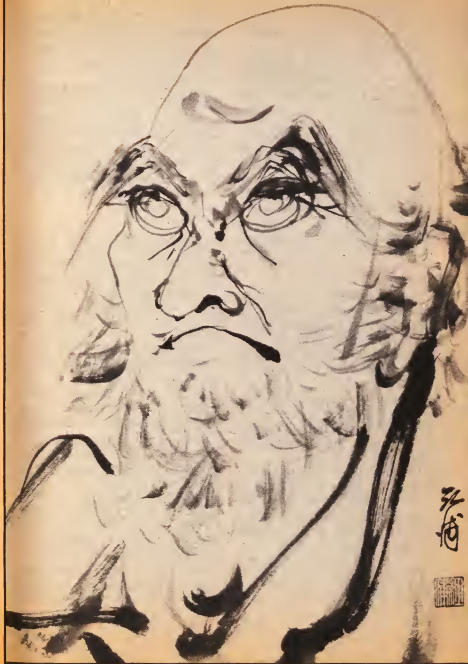
The Master!

The shock of that made the battering his body was taking seem mild by comparison. It was a shock to the seemingly invulnerable controls he had built over a lifetime. He felt the walls that kept his emotions in and the Mushin out weakening, crumbling. Fear, stark terror, battered at them from inside as strongly as the Master smashed from outside. The Master!

It was beyond logic, beyond understanding. The Master had promised to train him. And now the Master was beating him to death. Why? Why?

Exhausted, sobbing with pain, humiliation, grief, anger, horror, he felt the ultimate terror. He felt the tingling presence of Mushin rushing to investigate this source of emotions, this feast of fear. And he knew he was defenseless. Defenseless against the Mushin! Defenseless against the Madness! With a thin whimper of futility, he tried to hold in his emotions. But it was no good, it wouldn't work, his control was gone, smashed by the Master's club. As his anguish swept up in a cresting wave, the Mushin and the Master's club swept downward.

He didn't know which arrived first. For there was a roaring flash and total blackness.



\*\*\*

To his utter surprise, he awoke. For a few moments, he lay there, wondering at it, gently testing his mind to search for signs of the Mushin. Nothing.

He tried to move. Pain smashed into him from every direction. There wasn't anything that didn't hurt. He sat up and the world began to flow in different directions at the same time. He waited, and eventually the whirling and swooping stopped and the world settled into its accustomed orbit. Holding his throbbing head, he peered about. The Master was gone. There was calm in the woods.

He checked his body. Nothing seemed to be broken, though a rib or two might be cracked and he was a mass of bruises. He stood. While he waited for the world to stabilize again, he once more searched for Mushin.

He checked his mind. The walls of control were still there. They hadn't been destroyed any more than his body had been. But they ached, too.

Gods! What a beating! Worse than any he had ever suffered at the hands of the older Sons in his early years at the Brotherhood. He felt a mixture of anger and humiliation rising, bitter at the back of his throat. The Master had done this. Why? Did the old man hate him so? What had he done to deserve such treatment? He had gathered

firewood, cooked the old man's vegetables, weeded the garden, hauled water, swept, done everything. Why had the Master treated him this way?

The old man must hate him. That could be the only reason. The Master had never had any intention of teaching Jerome the Way of the Sword. He had only wanted a servant. Jerome's insistence that he be trained had undoubtedly angered the old man. Now he was trying to drive Jerome away.

Calmer now, the young man thought it through. The Master hated him, hated him badly enough to beat him senseless and nearly kill him, opening him up to the Mushin. He wanted Jerome to run, to leave in fear, to escape from the beatings so he would not have to teach him the Way.

But Jerome thought, I can hate, too. Ever since the night he had watched helplessly as his family had been massacred, he had known what hatred really was. He had taken hatred into the very depths of his being, and it had become the major fuel for his existence. It had stoked the fires of his determination in the practice yards of the Brotherhood. It had strengthened his decision to follow the Way of the Sword, to challenge even the Brotherhood and the Grandfather, if necessary, to achieve his goal.

The Master cannot drive me away, the young man thought, with a hatred so old, a rage so ancient, it

went back to the very dawning of human consciousness. I will stay. I will learn. I will triumph.

Slowly, like an ancient, he picked up his scattered firewood, giving the berries up as lost, and staggered through the woods to the hut and the clearing.

The Master was sitting in the sun next to the hut, waiting. He smiled secretly and sadly as the young man unloaded the wood and threw a defiant glance his way.

\*\*\*

The beatings became more-and more frequent as the days went by. Jerome lived in constant fear of the whistling club which struck him down any time, any place. He was in even greater dread of the Mushin which lurked around constantly now, drawn by the fear he leaked, waiting for him to lose control so they could feast on his shattered mind. The Madness loomed larger than it ever had in his life. Larger even than the club-wielding Master.

Jerome never knew when or where the next blow would come from. The anticipation was almost as agonizing as the actual beatings. He was at a fever pitch of expectancy every moment of the day. It could happen while he was cooking. Or when he was bending down weeding. Or in the woods. Or even during meditation. One night he awoke in agony to find the Master standing over him in the dark,

swinging and connecting by sheer chance.

His nerves frayed, then tattered. His hands began to shake. He was constantly nauseous, unable to keep his food down. Fear was his companion, his shadow, always at his side. The sound of its jabbering kept him from sleep at night, woke him if he snatched at rest during the day. Closer and closer he came to exhaustion, to defeat, to the Mushin, to death by the Madness. Yet always at the last moment he rallied, drawing energy from some source deep within, from his hatred, from the dark place at his center.

\*\*\*

Slowly, ever so slowly, Jerome began to find little clues to the Master's lurking presence. A whisper of wind where nothing should be stirring, a shadow out of place, a sudden silence among the tree lizards. His senses extended themselves, not consciously, not purposely, but naturally. It was never anything he could command. If he held a clue up for examination by his mind, it melted and disappeared. He simply had to accept them, experience them, without thinking, without judging.

One morning, coming back from gathering wood, he approached the hut with extra caution. There had been no sign of the Master in the woods. As he came to the door, he hesitated. Something tasted, felt,



seemed wrong. Uneasiness spread about him like ripples from a stone thrown in a calm pond.

Shaking his head, he tried to bring himself under control. He looked around carefully, noting each thing in the clearing, studying the hut, cataloging, comparing, calculating. There was nothing, his rational mind said. Something, came a dim echo from the dark at the center of his being.

Nothing, he repeated more firmly, asserting control. Nothing. I'm just nervous, tense. He shook himself again to loosen his stiff muscles and entered the hut.

A tremendous blow across the shoulders sent him sprawling to the floor. He twisted as he fell to see the Master leaping at him. "Fool!" the old man shrieked. "Fool of a fool! You sensed something wrong and yet you entered!" The club rose and fell in time with the words. Jerome writhed about, trying to escape the blows. "You knew, and yet you let your knowledge be denied! Fool! Fool!"

\*\*\*

Time passed and the beatings continued. Jerome kept no track of the days, for no one wishes to remember pain and humiliation. His hatred burned like a fierce flame deep inside his mind, shielded from the hovering Mushin by his iron control, providing him the energy he needed to keep going. He ate

like a wild animal, gulping his food in quick snatches, ever on the alert. He slept and worked and walked and even meditated in the same way.

Then one day all the little clues connected and just before the club struck, Jerome knew it was coming. Desperately, he twisted to avoid it. And succeeded! The Master smiled to himself as he walked away.

Jerome extended his consciousness fully. He continuously sampled the environment with his awareness, on watch, ever testing the wind, listening for the false note, the jarring accent, the unnatural motion. He sank his being fully into the world around him, letting it wash over his consciousness, becoming one with it, extending himself out and out and out to become the very atoms of the air. If they vibrated with the passage of a body, he vibrated. He grew into an awareness that transcended mere observation, mere discrimination, mere reflex. It came from the center of his being, from someplace beyond the self, and flowed outward to encompass and blend with the All until there was no longer any outside nor inside.

More and more often, as time passed, the Master's blows landed on thin air.

V.

Why? Why does he do this? thought Jerome. He readjusted his aching body to better fit the bumps

and hollows of the forest floor. He pressed against the coolness, sucking up what refreshment it offered. Why? he thought again, realizing his mind was still too muddled, too recently returned to consciousness to yield a coherent answer.

Clarity returned quickly. But it came alone, without an answer to his confusion. It just didn't make sense. Most of the time the Master was quite normal. When he was giving his little sermons he was even friendly, at times positively jolly.

But then suddenly he would attack, trying to beat the young man senseless. At first, it had appeared to Jerome as if the old man hated him and was trying to scare him off, to drive him away so he wouldn't have to teach him the Way of the Sword as promised. That must be wrong. Months had passed. It was obvious to anyone by now that Jerome could not be driven off in that manner. If the Master hated him, Jerome knew how to respond with a hate of his own. He could hold his ground with no trouble. His hate gave him the strength.

Yet the Master, aside from the continued beatings, did not seem to hate Jerome at all. It did not show in any of his other actions. Indeed, if anything showed it was a stern affection.

Confused, Jerome reviewed it all again. If he hates me, I can hate back and it's a draw. If he doesn't hate me, how can I hate him? But if

he doesn't hate me, why does he beat me so brutally? And if I don't hate him, where will I get the strength to live through the beatings? Around and around it went.

He thought back to the beating he had just received. For many weeks he had come off virtually unscathed because he had become so adept at dodging the Master's blows. Now and then, however, a solid smash had landed. Jerome had reasoned that if he had a stick or a club of his own, he would be able to block the Master's club rather than just dodging it. It seemed to follow that in such fashion he might avoid the pain of being struck altogether and force the old man to recognize the situation as a standoff.

So he had scoured the woods for a likely club of his own. One morning while gathering wood, he found it. Holding it, checking its merit, he swung it a few times, then, satisfied, he had stuck it in his belt and headed back to the hut.

He never got that far. Suddenly the Master had leapt from behind a tree and attacked.

Jerome dodged the first blow, then fumbled briefly and pulled his weapon out. The Master grinned wolfishly when he saw what the youth was attempting. "Fool!" he chortled with undisguised glee. "Fool! You'd fight back? Does the tree-lizard stand and fight the Ken-wolf?" With a quick feint, he forced Jerome to open himself up. Then with contemptuous noncha-

lance, he knocked the club from the young man's hand. Astounded, the Seeker made just the slightest move to retrieve it. Seeing what he waited for, the Master struck, knocking him to the forest floor, leaping instantly to follow up with a murderous pounding attack.

"Fool," the Master preached as he struck, his monologue punctuated with the grunts of his victim's agony, the twack of his weapon, and his own snorts of effort. "You pull back. You snuff out your awareness with your ego. You let go of the world and hold a broken branch. You bring your mind to a halt with a piece of wood, even following it as it sails away. Your mind abides in the branch, it moves away from you, leaving you defenseless. The branch cannot save you unless you hold it: as before you held the world. You must let go of the branch before you can hold it. Flow. Be immovable. Or die." Finishing the sermon and the beating, the master had strode off into the forest, laughing mightily.

Jerome's body ached anew at the memory. Trembling, he raised himself to his knees. His hand came in contact with the club. He pulled back in instant revulsion. What a beating!

His hand crept forward again, like a bruised, lost spider. Fingers curled around the wood. Hold the club as I hold the world, he thought. Let go of the branch so I can hold it. What did the Master

mean? How did he 'hold' the world?

He didn't hold the world. He simply let his mind flow into the world and let the world flow through his mind. It was easy. The world lived and moved. Things changed, the wind blew. He could float along with the current. When things were right, his mind was right. When anything was wrong, he knew it without checking. And reacted.

But a piece of wood? How could he let his mind flow through a piece of wood? How could a branch flow through his mind?

I don't understand, he puzzled. I don't understand anything.

\*\*\*

More days, more weeks, more beatings taught him the secret. He didn't think of it anymore. Pay no attention to the club and it becomes part of you. Focus on it and you lose it.

Soon he was blocking the Master's blows as often as he was receiving them. A great pride filled him. I can hold my own with the Master! One day he came back alone from weeding the garden, his club in his hand, stalking warily through the woods. As he reached the hut and was about to enter the door, he paused. There was something wrong. He recognized the feeling. He had felt it before. And received a terrible beating for ignor-

ing it. This time he was ready, alert for any trickery. His club poised for an instant counter, he stepped through the door.

But the blow didn't come from above. It came from below. The Master had been lying next to the door, waiting. As Jerome stepped through, anticipating a blow from behind, the Master struck up, hitting the young man in the groin. With a groan, Jerome crumpled and hit the floor, unconscious. The Master beat him anyway, bellowing the while, "Triple damned fool! You knew something was wrong! You knew it! Yet you trusted your skill to save you! Triple fool! Though you are unconscious, you hear me! Remember!"

\*\*\*

There came a morning when the Master was unable to land a single blow. Jerome twisted and blocked every effort the old man made. Finally, realizing it was a draw, the old man stopped and Jerome stood looking anxiously across the gulf that yawned between them.

"Hmmm," began the Master. "Not bad. And you've had the good sense not to try to go on the offensive. It would have been disaster, just as when you first tried active defense. Know that to attack you must encompass the enemy just as you encompass the world and your own weapon. You must make yourself one with him, one with his

## ALGOL THE MAGAZINE ABOUT SCIENCE FICTION

IN OUR SPRING ISSUE:

ALFRED BESTER  
FREDERIK POHL  
A. E. VAN VOGT

RICHARD LUPOFF  
JACK WILLIAMSON  
R. A. LAFFERTY

Box 4175C, New York NY 10017  
Sample Copy \$1.95 | Six Issues \$7.50

ALGOL: The Magazine About Science Fiction, is a large format (8 1/4" x 11") magazine published three times yearly. All covers are in full color, printed on the same cover stock as that used by the Peacock Press line. ALGOL won a Hugo Award in 1974; it was a Hugo nominee in 1973, 1975, and 1976.

sword. You do not fight against him. You fight with him, letting him make a mistake. There is no thought. He makes a mistake, breaks the rhythm you have established between you, and is defeated by himself."

Jerome nodded. "I am not ready for that yet."

"No. Not yet. But you would do for most fights, with most Ronin bands. And I wager there are few Fathers you could not master."

Keeping his eyes on the Master, Jerome bowed in mock gratitude. "Thank you."

"You are most welcome." And the old man spun about and walked off.

\*\*\*

A rainstorm was coming. Jerome stood once again outside the hut, feeling the wrongness all about him. He looked in the door, moving around to get the best possible view. Nothing to be seen. Yet it felt hostile, incorrect, incomplete. He pondered. Doubtless it was a trap. He could trust to his skill and hope to come off well. After all there were only so many angles the Master could strike from. This time he would consider them all. He started to enter, then hesitated. Still, though, the Master was tricky. He might have a new trap.

A light rain began to fall. I'd best go in—but as cautious as possible—he thought. Then he

stopped himself. No. It was a trap. He would be beaten. Better to be wet than beaten. With a great show of indifference, he sat down on the sodden ground and composed himself, folding his dripping robe carefully about his feet so he could rise quickly if necessary.

He waited. After a time the Master came to the door and motioned him in. "Come. You're wet enough." With dignity Jerome rose and walked slowly and calmly to the door. He stopped. Everything felt all right. With a nod he entered. A silent smile played over the Master's face.

\*\*\*

That night, and for every night following, the Master cooked his own meals. He no longer ordered Jerome about. The old man even went into the forest to help gather firewood. All attacks ceased.

But Jerome was still seething with bitterness. So many beatings, so many humiliations, and never an opportunity to strike back. Not even once. How sweet revenge, even one little blow, would be!

A plan began to form in the young man's mind. The Master had always managed to catch Jerome unaware, and, at the beginning, unarmed. If he managed to catch the Master the same way, he could achieve his revenge.

Patience had to be his guide. And careful observation. He watched the

Master closely to see what would be the best moment. Catching the old man asleep would be too cowardly. Outside it would be hard to sneak up, for the old man's senses were as sharp, or even sharper, than Jerome's. The hut, then, inside the hut. There was no way he could lay a trap as the Master had done since the Master always entered first. Some other time, then.

Jerome kept his club close and waited. One night, on the spur of the moment, he realized his chance had come. The Master was at the fireplace, cooking his vegetables for dinner. He had taken the pot off the grate, lifted the lid, and was tasting the contents to see if it was ready. His eyes were closed, savoring the flavor, judging, concentrating in the sheer pleasure of taste.

Stealthily, Jerome crept up behind the unsuspecting cook. With utter calm, utter silence, he lifted his club and struck downward at the bent back.

Revenge!

Jerome was never really too sure exactly what happened next. He saw the Master turn as the club fell. There was no look of surprise or fear in his eyes. If anything, there was the slight quirk of a smile on his lips.

Everything seemed to move in slow motion. As if he had all the time in the world, the old man lifted the pot lid he held in his hand and interposed it between his head and the club. With a ringing crash,

the club shattered, leaving Jerome's hands numb with the shock of impact. The lid did not stop. It kept moving up toward the young man towering over the bent old one. Up it rose, up toward his face. It was the last thing he saw for some time.

When he came to, Jerome instantly knew his nose was broken and his jaw was probably cracked. Several teeth felt loose. He spat blood and looked around. It was a mistake. His head refused to move, so great was the pain the attempt aroused.

Finally his eyes stopped watering and the agony subsided. Quietly, he thanked whatever Gods inhabited the slopes of the Mountain that he was still alive, and prayed that he had suffered no serious concussion.

"Ah," commented a sardonic voice, "the Young Avenger awakes." A cold splash of water hit him. "Ah. Even more awake now. Perhaps even rational, at last."

Jerome looked up and saw the Master looking down. "How does your head feel, Seeker? Still there?"

Confusion for a moment. "How? . . . what? . . ."

The old man chuckled. "Oh, come now. I didn't hit you that hard! Surely you remember what a fool you were!"

It all came back in a flood of shame. Revenge. He had tried to strike the Master in revenge! He sat up. "I . . . I . . ."

Looking solemn, the Master knelt next to him. "Is there no room in

you for anything but revenge, lad? Revenge against the Ronin for killing your parents, revenge against the Mushin for the Madness, revenge against me for teaching you what you wanted to learn in a manner you didn't like? Is that all there is at your core? Revenge?"

Tears came to Jerome's eyes. "I don't know. I don't know."

The old man sighed. "Better you had stuck with the broom, Seeker. Eventually you would have come to the same place, anyway. It would have been better.

"In a way, I have failed. I should have refused to let you go beyond the broom. It was so obvious you didn't understand. You came here seeking a weapon to fight the Mushin. You thought the Way of the Sword would provide it.

"Listen, Seeker, listen. You see the Mushin as your enemy. You see them as external to yourself and your race. So you look for some way to destroy them to free your race.

"Know, Seeker, know. The enemy is not without, but within. The Mushin but take what is there and amplify it. They create nothing. Anything they make a man into he already is. The Mushin are just as willing to intensify emotions of love as those of hate, of joy as those of fear. They make us what we are, Seeker. They are a magnifying mirror held up to us.

"Understand, Seeker, understand. You are the enemy. Everything you

do reflects your true nature, your real self. You have not studied the Way of the Sword. You have sought a weapon. You have sought to turn the Way to your ends, to make the Path follow your path. You must give up your path if you are to walk the Way.

"Hear me, Seeker. I give you a new Litany to replace that of Calmness. I give you the Litany of the Way.

The Sword is the Mind.  
When the Mind is right,  
the Sword is right.  
When the Mind is not  
right, the Sword  
is not right.  
He who would study  
the Way of the Sword  
must first study  
the Way of his Mind."

Dazed by shock after shock, by word after searing word, Jerome recognized the Litany. It was the chant the Grandfather had used in an attempt to take over his mind so long ago! It was the same chant that had forced him to fight for his existence, that had caused the explosion of emotion, that had led him to strike and kill the alien ruler of the Brotherhood!

But this time it drove him inward, behind his walls of defense not to fight, but to flee ever downward into the center of his being. The question the Master had asked him that day, "Why?," accom-

panied him on his journey through his own soul.

This was not the voyage he had made before. He did not pass the boundaries of Self. He did not see himself as a pathetic creature standing in a dark cell holding the crumpled head of a Grandfather in his hand. He did not float over the agony, the blackness, the void that was his center. This time he plunged right in.

What the Master had said was true. He did live for revenge. He found himself once more sitting over his mother's body, muttering as he straightened her ravaged clothes, "I'll get you. I'll do it. I'll get you," over and over and over, making it a part of his being. When the older boys at the Brotherhood had beaten him behind the Refractory, he had done the same thing. And then carried out ingenious revenges. The day he had understood the plight of his race on Kensho, he had pledged revenge against the Mushin. Since then his entire life had been dedicated to achieving it.

It was true. Revenge did fill his inner core, his True Self.

No. Wait. There was more. There were the emotions that motivated the revenge. There was the love for his parents. There was the friendship, the sense of belonging he had felt even when being beaten by the older Sons. There was the hope that someday his race would be free once more.

Other things, too. The sheer joy

of moving with the sword, his muscles singing, his breath ringing. The peace that sitting beneath the Ko tree brought. The warmth a smile from the Master kindled. And so much more.

It was all there. Only it had all been swept into the corners to make more room for the revenge. Or twisted and bent to make it fit the form of his revenge. He saw it all.

And suddenly he saw something else, too. It unfolded before him in all its simplicity, every look, every incident, every word. The Master's love.

Weeping, Jerome looked outward, through his eyes. The old man still knelt before him. "I... I understand. I struck at the Grandfather, unknowing. I struck at you, unknowing. Now I know.

"I know the dark chaos at my own Center. And I know the light. The darkness must yield to the light, and calmness must replace the chaos. When my Center is calm it will reflect the light like still waters reflect the moons. And it will light the Way."

Slowly Jerome rose and stood tall. The Master rose with him. For a moment the two men simply looked at each other. Then, calmly and gently, the Master spoke. "The time has come for you to go, Seeker. I have done all I can for you. Now you must become a Wanderer and seek the Way on your own." The Master paused, his head cocked to one side, his eyes





turned inward to search his own Center for something to say, something that would give Jerome guidance as he wandered. "You must search out a Way that will be a weapon for our race against the Mushin. For you especially, but also for any man, this is a natural Way to walk. For surely a man defends himself and his own as naturally as a stream seeks to join the Sea. But learn from the stream. It knows no Desire, yet it cuts deep chasms and great valleys in its journey.

"Of course a man is not a stream, for all men have Desire. But you can become like the stream if you learn to hold your Desire as I have taught you to hold the Sword. Then you will find a weapon sharp enough to cut nothing."

The Wanderer smiled and nodded. Three times he bowed his thanks, then he turned and left without looking back.

As he walked across the clearing, through the Woods, down the Mountain, he thought of how his life seemed to be but a series of departures. He had departed his mother's womb to enter the World. He had departed his home when the Ronin had destroyed it about him. He had departed the Brotherhood, fleeing in the night, when he had killed the Grandfather. And now he departed again. But this time he went willingly, on his own. And he knew that before him lay the Way and the future of his race. ★

GALAXY

science  
fact:

## A Step Farther Out

Jerry Pournelle, PhD

I'M WRITING MOST OF THIS in a hotel room in Toronto, which is a lovely city but no place to be if you're alone on a Sunday night, and especially no place to be if you're from California: jet lag keeps you from getting to sleep at a normal hour, and the Provincial Police keep you from finding an open tavern. . .

It has been an interesting day. I've just taken part in a Canadian TV program called The Great Debate. The issue was, "Resolved: space research is a waste of time and money." Anyone who doesn't know which side I took shouldn't be reading these columns. Anyone who believes I lost the debate hasn't been reading them very long.

I slaughtered the poor chap. It helps that my opponent, John Holt, who is a charming fellow with a distinguished record in education, chose such a silly proposition to de-

fend. It is trivially easy to show that space research has pretty well paid for itself already. I chose, in fact, to assert a new proposition: that the space program is the most important activity, excluding religion, in human history.

They tape The Great Debate in bunches, and prior to my own I watched another: Max Lerner and Toynbee's successor at Cambridge debating the proposition that Western Civilization is in a state of irreversible and imminent collapse. As I listened it came to me that their whole conversation was irrelevant. It was as if a pair of very distinguished and learned professors in Paris were debating the same subject in 1491, unaware that this Genoese nut was making application to the Queen of Spain for a small fleet. . .

And of course I said as much in

A STEP FARTHER OUT

my own debate, and added that very probably in Iceland a few centuries earlier someone had won in a debate of, "Resolved, the voyages of Lief Ericson are a waste of time and money." To which Mr. Holt replied that the New World was accessible to the average family, while space never would be; that space would be restricted to scientists, astronauts, and military officers, a chosen few. The general public would never be able to go. He didn't say why.

Now at first the New World was pretty well inaccessible to anyone who couldn't get Queen Isabella to hock the crown jewels, and space is in the same situation at present; but just as the Americas were soon open to workers, farmers, administrators, soldiers, adventurers, some qualified, some merely desperate, some sent as sentence of courts, space will, probably well within my own lifetime, be open to large numbers—at least if Mr. Holt doesn't get his way. The only real question is how and when.

The how is simple technology. Shuttles will help a lot. Eventually, I trust, there will come the laser launching systems I've described before, which can put up privately owned capsules, the equivalent of the covered wagon. There will be O'Neill Colonies—which Mr. Holt particularly hates; Luna bases; asteroid mining and refineries; Mars colonies; possibly Enceladus and the Mars-forming Project; all these and

more are in the cards and there's no reason to suppose they'll be restricted to super-heroes.

The when is a little harder to predict, but in fifty years for certain. It didn't take that long to get colonies established in the New World.

So what's it going to be like to live out there?

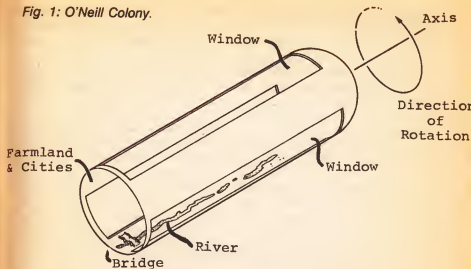
\*\*\*

Well, first let's take the O'Neill Colony, which is a huge cylinder in space. NASA figures we could have the first one before the year 2000 if we wanted it, and there are good numbers to show that it would pay for itself within a few years after its establishment: it can sell power to Earth, as well as serve as a base for extensive space manufacturing—and there are plenty of things that you can manufacture *only* in space.

The colony will be quite large, say a cylinder 3 kilometers in diameter and ten to twenty kilometers long. Windows run the length of it to let in sunlight. Under the windows is land, ordinary dirt, with hills, streams, buildings, and such like. The whole thing rotates to give artificial gravity. Let's suppose the medical people have determined that a tenth of an Earth gravity is sufficient for long-term health; that means our cylinder rotates at .026 radians a second, or .25 revolutions per minute.

A colonist standing on the ground

Fig. 1: O'Neill Colony.



and looking up through a window above will see the stars swinging past once each four minutes. He'll also see his neighbors' fields and houses hanging in space above his head, which can be disconcerting until he gets used to it, after which it won't seem any stranger than seeing mountains in the distance.

Life in the O'Neill colony may be a bit strange, but it has its compensations. If the colonist is a farmer, he'll never have to worry about the weather. There won't be any rain—he'll have to irrigate—but on the other hand there won't be floods, storms, or droughts (so long as the engineers keep the watermakers going). He will be able to calculate *exactly* how many hours of daylight his crops will get for the

entire growing season. The only weeds and insects he'll encounter will be those brought aboard by the ecology teams.

Actually, one suspects a few pests will come along as stowaways.

Imagine the town meeting after the sparrows have got loose. One faction wants them left alone. They're cute. Another advocates shotguns. Still another abhors guns, but is willing to send to Earth for a supply of sparrowhawks. After four hours of shouting the council sets the matter aside for another day. . .

Machinists and mill workers will find their work little different from Earth, except that everything weighs only 10% as much. For production runs the colony probably has

computer-controlled lathes and milling machines, but for one of a kind items the machinists will have to do the work. There will undoubtedly be lawyers and doctors and storekeepers and librarians and tailors, none of whose business lives will be all that different from what it would be on Earth.

But after working hours things get more exciting. No freeways; no cars. No subways, either. In 10% gravity the simplest means of transportation is to fly with artificial wings. There might not be any other form of transport besides walking. Why should there be? (Well, for heavy hauling you might want a few electric trucks, but surely there's no need for any individuals to own cars or trucks.)

If flying is the usual transport, grocery shopping will be like New York City, where you buy a few items a day as you need them, rather than like California where you buy bags and bags once a week and transport them in a car.

Flying also means that everyone in the colony is accessible to everyone else; every place is easily accessible to anyone wanting to get there. This can drastically change the sociology. Houses will probably have roofs, not to keep the rain out, but to keep the neighbors from looking in. The house need not be anything more than a visual screen: it doesn't have any weather to control.

What all this does to the colony's

mores isn't really predictable. There's little privacy. Parents will know pretty well what their teenage kids are doing. Whether this will make pre-marital sex more or less common isn't obvious, at least not to me. It depends partly on geography, I suppose: will there be any secluded places, dark and cozy? Dark comes when the windows are closed for the night, of course; the Sun only sets when the colony wants it to. Daylight Saving Time is silly in an O'Neill colony, because if you want more daylight, you simply program the window blinds to give it.

It may be that parents won't care much where their children are. There won't be any dangers in the colony; one presumes that airlocks to the outside and the like are controlled against accidental use, and also that there won't be many incompetents in the community—at least not *that* incompetent. There remains the problem of crime.

It's hard to imagine jails in a space colony, although I suppose they could be built. It's hard to imagine space muggers in the first place, or that the colonists would put up with them. They might be enslaved to the community. The cost of shipping an unwanted colonist back to Earth would be slightly colossal. On the other hand, the environment is fragile enough that you certainly don't want anyone wandering around harboring burning resentment against

the colony—especially not if he has suicidal tendencies. It would be all too easy to take a number of others along in a spectacular suicide.

We can presume, then, that the environment is *safe*: free of most of the dangers we live with here on Earth. Now in England the custom of dinner parties grew up only after Sir Robert Peel invented police; prior to that no one in his right mind went *anywhere* after dark, and when you visited friends you stayed at least for the night. When the London Police made the streets comparatively safe it became possible to visit for the evening and go back home for the night. Such factors will affect the colony patterns of friendship too.

On the other hand, there are dangers that we don't worry about here. The most significant would be leaks. It would take a very large leak to affect the colony, of course. Small ones would be costly (air isn't cheap when it has to be taken to orbit) but easily repaired before anyone felt their effects. Still, it seems reasonable that there would be a few major airtight structures, shelters, into which the colonists could crowd in the event of a major break in the pressure hull.

An interesting life, with kids learning to fly at an early age. I suppose when a parent tells a teenager he's grounded, he'll mean that quite literally.

\* \* \*

A STEP FARTHER OUT

So what do you do in such a colony? Well, what do you do now? It's simple enough to sit at home and watch TV whether you're in New York or Earth orbit. Some recreations won't be possible. No backpacking trip through the wilderness. Probably no sailboating: no wind, even if there's a lake. There may be fishing, but certainly no hunting.

On the other hand, there'll be cultural activities not available on Earth. Flying, of course; real flying, not dangling from an oversized kite, but man's ancient dream of flying like a bird. Aerial acts will probably become an art form, possibly involving a large portion of the colony population. There can also be aerial ballet, with and without wings. Up in the center of the cylinder there's no gravity. Zero-9 areas are easily accessible.

Games can be strange. With that large radius and slow rotation rate; the colonists won't easily be able to tell the difference between their artificial spin gravity and the real thing: not, that is, until they begin throwing things. As soon as you throw something, say a baseball, you'll know you don't have normal gravity. The ball's trajectory will be strange, and it will depend on which direction you threw it in. You'll also be able to throw the ball a very long way, so far that baseball may require much larger teams to cover the huge playing field.

In fact, any projectile motion is affected. Obviously, in one-tenth gravity you can throw a ball (or a javelin or a wrestling opponent) ten times as far as you could on Earth. A javelin-throwing athlete who can manage 285 feet on Earth would get 2,850 feet, over half a mile, in the O'Neill colony gravity. Broadjumpers would also do well.

However, there's a problem. When you loft a thrown object in centrifugal gravity, you increase the time of flight; and the ballistics become strange indeed, due to an effect called the Coriolis Force. What happens is this: from the viewpoint of an observer inside the spinning object, the "gravity" is radial. Objects dropped tend to fly directly away from the center. They fall toward the "floor," and 10% gravity as we have here, they fall rather slowly. It takes two full seconds for something to drop two meters.

While the object is falling, the "floor" is moving, so that the dropped object does *not* strike the spot directly under it. The discrepancy is related to the rate of spin and the radius of the spinning craft, and for something as large as an O'Neill colony you'd never notice it under normal circumstances; but if you throw the ball up, or loft it into an arcing trajectory, the effect can be very noticeable.

(I know: it isn't *really* that way at all. To an observer watching from outside there is no such thing as "centrifugal force," and the

Coriolis effect I described in the last paragraph is also a pseudo-force. What happens is that the released object tends to fly along in a straight line tangent to the circle of motion; but the effect, as far as someone inside the colony is concerned, is as I described it. I've diagrammed the situation below.)

The result is that if we did have baseball in an O'Neill colony, the batted ball would follow an abnormal trajectory. The fielders could jump fifty feet into the air in an attempt to catch it. If the ball nevertheless falls into the outfield and a player snags it, he'll have to be careful not to aim his throw at the catcher. Exactly what his point of aim should be if he wishes to get the ball to home plate will depend on where the player's standing when he makes his throw. If the axis of the field is along the axis of the cylinder it could make quite a difference whether you threw from right or left field!

\*\*\*

Conditions in a lunar colony would be rather different. While it's only one-sixth Earth's, the gravity on the moon is real, not artificial. Also, O'Neill colonies have to be built with a lot of open space. A Lunar base doesn't, and most models have the colony carved out of caves. It's certainly possible to roof over a large crater, and it will probably be done: but I doubt that there

Fig. II: effect of Coriolis Force on dropped object.

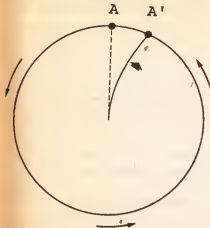
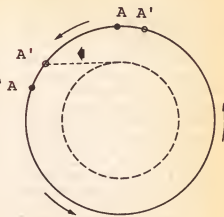


Fig. III: effect of Coriolis Force on object thrown parallel to axis.



will be any large surface cities.

Lunar farmers will have a problem: the Sun doesn't shine all the time. During the long Lunar night there's got to be heat and light for their plants. There are a lot of schemes to provide that, from full-time artificial light to mylar-roofed craters with an opaque roof that can be put on over it (and artificial lights, of course). You certainly have to cover any transparencies (large ones, anyway) during the night cycle. If you didn't, you'd lose all heat to radiation. The effective temperature of outer space is about  $-200^{\circ}\text{C}$  ( $73^{\circ}\text{K}$ ) and heat radiates proportional to the fourth power of the temperature difference. Even here with Earth's atmosphere to catch some of that outgoing heat

it's always *much* colder on a clear than a cloudy night, and in fact the Romans used the night sky to make ice cream in the Sahara. Maybe I'd better explain that.

Take one large pit, and fill it with straw. The idea is to insulate it as thoroughly as possible. Put a small container in the middle of the straw. At night you expose the pit to space. It radiates heat. In the daytime you keep it covered with more straw and on top of it all place highly polished shields or other reflective surfaces. Ice will form in a few days (provided that the night sky is clear, as it is in the desert).

Enough for the Romans. Back to space.

Life on the Moon has been



thoroughly described in science fiction stories, and there's no point in my doing it again. For an excellent book on the uses of the Moon, see Neil Ruscic's *Where the Winds Sleep*. The Lunar colony is, after all, a complex cave with lower gravity than Earth's. (I hardly need mention Mr. Heinlein's classic *The Moon is a Harsh Mistress*.)

Zero gravity is another story. Any long trip through space will have to be made by Hohmann transfer orbits, which use the lowest amounts of fuel, but which also take a lot of time: about a year and a half to get from Earth to Ceres, for example, and even a trip to Mars taking something over eight months.

It's possible to design ships so that they have artificial spin gravity, of course. There are some problems with that, and since many *Galaxy* readers would like to do some preliminary design work themselves, I'll give the equations here. Readers uninterested in the details can skip the next paragraphs.

Newton's First Law says that an object in inertial space wants to continue at the same velocity (that's both direction and speed) forever. It takes a *force* to make any change in velocity. Gravity serves as the force to get moving objects into an orbit, exactly as the string serves to provide a force when you whirl a weight around on the end of a rope. In both cases the object "wants" always to go in a straight line,

which is to say it wants always to go off in a direction tangent to its circle of motion. It does *not* "fly out from the center," although the result, as seen by an observer *moving with the system*, looks that way.

Thus if you stand on a moving carousel it feels as if you're trying to fly out radially from the center, and in free space the "floor" of a centrifuge will be "down." If you let go of an object it will experience an acceleration relative to the carousel, and for those inside the system that looks very much like gravity.

The acceleration is:

$$a_r = w^2 R \text{ (equation one),}$$

where we have used  $w$  in place of the Greek letter "omega" as a kindness to typesetters.  $R$  is the radius of the rotation, and  $w$  is the rate of rotation in *radians* per second. There are 2 pi radians in a circle, so if you multiply radians per second by 360 and divide by 2 pi, you get degrees per second. Multiply the result by 60 and you have degrees per minute; divide the end result by 360 and you have revolution per minute.

Going the other way:

$$\frac{\text{rpm} \times 2\pi}{60} = \text{radians/sec.} \quad \text{(equation 2).}$$

Since force equals mass times acceleration (the most basic equation in Newtonian physics), it's easy to see that the force exerted by (and the tension on) the cord when you whirl a weight on a rope is,

$F = ma = m w^2 R$  (equation three) where  $m$  is the mass of the whirled object. This is the centripetal force, and it's real. If the cord were suddenly cut, the object would fly away in a straight line tangential to the radius of rotation. The velocity it would have is:

$$V_T = R w \text{ (equation four)}$$

and we're finished with the math.

\*\*\*

Now we're ready to design a ship, and immediately we see the problem. The shorter the radius, the faster you have to spin the ship to get a given artificial gravity. Now it happens that the faster the spin, the worse the Coriolis effect. If the radius of rotation is long compared to, say, the height of a man, there's no big problem, but as it gets short there can be devastating physiological effects.

It seems silly enough now that we've put men into orbit, but at one time planners seriously thought space stations and ships needed something like a full Earth gravity to keep humans alive, and we did plans for such things. If you try for a full  $g$  in a ship of small radius, the Coriolis effect is so severe that a water-hammer is set up in the circulatory system. A man could kill himself of stroke simply by turning his head rapidly in the wrong direction.

We now know that humans don't need a full gravity, and we suspect

that a tenth might be enough forever. That can be arranged for a long trip if we send ships in multiples: join the ships with long cables and rotate them around each other. That's also very inefficient, of course: we have to duplicate life support systems, etc. There's less dead weight in one large ship than in many small ones.

Also the tension in the cable can get quite high, as you can find from equation three.

Maybe we don't need any gravity at all? True, the first Apollo astronauts came out much the worse for wear, and so did the first Skylab crew; but the interesting part is that the longer men stay in space, the better they adapt to it. The Skylab Four (third manned Skylab, in NASA's screwy counting system) crew came out in much better shape than did the second crew. Okay, in retrospect maybe it's not so surprising that the longer you stay in zero- $g$  the better you adapt, but it did in fact surprise a number of space physiologists who had thought that a month of zero- $g$  might be beyond human endurance.

\*\*\*

A long trip in no gravity can be interesting. The accounts of the Skylab experience make for fascinating reading. They also show the need for experience in space. There were some terrible design faults in Skylab.

For instance: Skylab was the first space vehicle in which the astronauts ate at a table using spoons and forks, rather than squeezing everything from tubes and baggies. Their table was a mere pedestal that supported their food trays. There were seats, but those were seldom used: to stay in a sitting position in zero gravity requires that you bend at the waist and hold yourself bent. It puts a constant and severe strain on stomach muscles, and in fact those were the only muscles better developed when the crew landed than when they went up. The real problem, though, was the table itself.

It didn't do a very good job of holding the trays to begin with. The tray lids were held down with what Lousma called "the most miserable latch that's ever been designed in the history of mankind or maybe before." Pogue said of the table, "I wouldn't want the people that designed that table to do anything else. . ."

Despite their attempt at normal meals, the Skylab astronauts never had much appetite. Part of that is due to less need for food: you're not working very hard in zero gravity. Also, the thinner air (kept at low pressure to avoid strain in the pressure bulkheads and such) doesn't transmit food smells very well.

Everyone had head congestion, which was caused by pooling of body liquids in the torso and head,

so nothing tasted very good anyway.

However, they did eat.

With food in plastic bags (which were inside cans, which were supposed to be fitted into the trays on the table, but which often drifted loose because the cans didn't fit the trays very well) they could use spoons and forks. Eating in zero-g takes practice. You have to be careful to bring the spoon in a smooth arc from tray to mouth. Any hesitation and the food travels on in a straight line, probably into your eye.

The Skylab astronauts were almost constantly dehydrated, but never felt thirsty. The human organism is designed with a number of mechanisms to get the blood back out of the legs and up into the torso. So long as the legs are below the body those work fine; but when there's no such thing as "below," the blood gets into the torso and stays there. With all that fluid pooled in the abdominal region the thirst mechanisms don't work well, and the Skylab crews had to train themselves to take a quick drink every time they passed the water fountain.

The fountain wasn't designed very well either, with metal nozzles that would have been easy to use on the ground, but which could chip teeth when not under control. The fountain buttons were so stiff that when the crewmen pushed them, the button didn't go down, the

crewman went up unless he was holding onto something.

Of course it's hard to blame the designers. Until Skylab nobody had any real experience at designing living quarters for space. Apollo was a ship, and there wasn't much room to move around in it. The crew mission was to get somewhere and come back, not live in space. Gemini was worse, and Mercury was downright primitive: when we stuffed people into the Mercury capsules they were fitted—in precisely, without even room to straighten arms and legs.

John Glenn once said you don't ride a Mercury capsule, you wear it.

And prior to Mercury we hadn't any real experience at all. We flew transport planes in parabolic courses that might give as much as 30 seconds of almost-zero-g, and that was all we knew. I will not soon forget some of our early low-g experiments. Some genius wanted to know how a cat oriented: visual cues, or a gravity sensor? The obvious way to find out was to take a cat up in an airplane, fly the plane in a parabolic orbit, and observe the cat's behavior during the short period of zero-g.

It made sense. Maybe. It didn't make enough that anyone would authorize a large airplane for the experiment, so a camera was mounted in a small fighter (perhaps a T-bird; I forget), and the cat was carried along in the pilot's lap.



New! From Taurus. Military Research and Design Specialists—Discount Offer: The Battle for Andromeda, Conflict for a Trillion Suns (\$11.95) is the Battle for the Entire Galaxy using Fleets, Barrier Bastions and Omega Ships which can destroy 100 Solar Systems in a single move (it is 9,000 miles across). A Strategic Game where the Mere Presence of an "O" ship 1,000 light years away constitutes an act of War! Warriors of the Dark Star in the age of Neutron Wars (\$10.95) is a tactical version using enlarged models of "Omega" ships in single ship to ship combat with all the weapons, rays, and computers in an immense scale. Complete Games in themselves, extension kits with additional ships and fleets are available. . . so the size and scale of the games are unlimited! Using Boards with real Star Systems, No Dice, No Chance, and Unique Play systems for the WarGamer that have never been used before. Buy both and deduct 10%. New 1976 WarGame Catalog (\$2.00) has over 300 War Games covering every phase and era of Historic Conflict and Miniatures. . . Catalog FREE with purchase of both Games.

**TAURUS LTD.**  
Dept. GXM  
P.O. Box 1109  
Evanston, IL 60204

A movie was made of the whole run.

The film, I fear, doesn't tell us how a cat orients. It shows the pilot frantically trying to tear the cat off his arm, and the cat just as violently

resisting. Eventually the cat was broken free and let go in mid-air, where it seemed magically (teleportation? or not really zero gravity in the plane? no one knows) to move, rapidly, straight back to the pilot, claws outstretched. This time there was no tearing it loose at all. The only thing I learned from the film is that cats (or this one, anyway) don't like zero gravity, and think human beings are the obvious point of stability to cling to. . .

Future dwellers in zero gravity won't have so much to worry about. The nine Skylab crewmen dictated hours and hours of notes on design improvement, this time not theory, but well founded in experience. The next space station (if we get one) should be a lot more comfortable.

And life in zero gravity, the Skylab crew tells us, is fun. Almost no one simply went from one place to another. It was impossible to resist turning somersaults, flips, ballet twirls, just for the sheer hell of it. Most of us saw the TV demonstrations: waterballs floating in air, tiny planetary systems that could be set in motion by blowing gently on them. There were other lovely experiments, and just plain play, all described beautifully in a book I recommend, Henry S. F. Cooper's *A House in Space* (Holt, Rinehart and Winston, 1976).

\*\*\*

I've come nearly to the end of

my column and I haven't even got to the asteroids, which are different again. They have *some* gravity, but very little. Things do fall, but slooowly. On Ceres, for example, you can jump about 125 feet into the air (oops! into space) and it takes over a minute for the round trip. On very small rocks you can jump clean off, never to return.

There are dangers on intermediate sizes, too, ones too large to jump from.

For example, some respectable asteroids, several kilometers in diameter, have such low gravity that if you jumped hard you'd not leave it forever, but it would take hours to go up and come back down again. You could easily run out of air.

And so forth. I've tried to describe some aspects of life in the asteroid belt in my stories "Tinker" and "Bind Your Sons to Exile," and other sf writers have written hundreds of such. It will be interesting to see how well we've done: despite all the stories about zero-gravity (and a number of sf fans among the engineers who designed Skylab), there were a lot of surprises once we actually got up there.

There will be more. Despite all that, there may be a crazy few among *Galaxy's* readers who'd like to try it; so next month's column is on how to plan your life if you want to quality to become a space colonist. . . ★

GALAXY

# CRASH SITE



**Some dreams are nightmares—others are merely warnings . . .**

THE INTERIOR OF HIS CAMPER was cool and dark after the blazing desert sun. Anthony hoisted himself onto the bunk over the pick-up's cab and peeled the tab off a wet can of beer. The ice-box was not very cold; he gulped down warm foam as he listened through drawn curtains to the work continuing outside: pick and shovel against stone and salt, voices muttering or raised in shouts and laughter.

Fatigue overwhelmed him, and he shut his eyes for just a moment . . .

He began to dream almost immediately, with a vivid clarity that differed from waking reality only in what he saw and felt.

A spaceship—a starship, the dream amplified—decelerating to a minute fraction of light-speed as it passed through a familiar solar system and approached a blue-green world three orbits out from its primary.

The flight deck. The Captain star-

ing into a vision screen at the still-distant planet with its scattering of water-vapor clouds. A gray and lifeless orb suddenly passed between, occluding his view of the larger world.

Another officer, differing from his commander only in the absence of a sprinkling of precious metal at the shoulders, stood behind the Captain. "This world's only satellite, sir. As you can see, it is extremely large—almost a companion-planet, really, and quite inconsistent with the rest of this system." He paused, in case his superior wished to interject.

"Continue, Lieutenant."

"Yes, sir. Advance probes indicate a superabundance of life. Comparatively speaking, the next planet out—the red one—is a desert. But of course you know that, sir."

The Captain jolted upright in sudden confusion. For a moment it had seemed as if he had *not* known, as if he had somehow forgotten everything he had learned about this system in the past few days: the outer giants—including that odd ring-world formation; the rock belt; the fourth planet with its pitiful, semi-sentient shrubs that would be extinct within a few millennia. No, the information was all there. What an odd delusion! The Captain shook himself, decided to consider it a momentary aberration.

Anthony stirred fitfully, but did not wake.

The Captain was still struggling with a vague sense of unease as his Executive Officer sat down in the vacant chair next to him. The Lieutenant turned quickly to his computer as the Captain focused his attention on the XO.

His Second-in-Command proffered a small read-out tape. "Decay reports on the Number Two Regenerator."

The Captain did not take the tape but merely said, "How does it look?"

"Not good," answered the XO, as he slipped the cartridge into a receptor in the control console. A screen began flashing holographic diagrams before them. "You can see that we've got three major stress points; if one of them goes . . ."

The Captain was silent for several seconds, finally said, "Recommendations?"

The XO shrugged. "A yard-period. Yesterday, if not sooner."

The Captain digested that, staring at the monitor as the planet grew in the screen. He could see sheets of gray clouds spreading across wide seas. He turned back to the XO: "We'll cut our survey time here to the minimum and then head for the nearest Base. Has Control been apprised of our situation?"

"Yes, sir. They should receive the message in three to four weeks. May I ask how long you anticipate our remaining in this area?" Concern ravelled the edges of the XO's voice.

The Captain smiled slightly. "We'll warp back to our own sector within two months." He hoped his reassuring tone masked his own doubtful glance at the regenerator diagrams. Apparently so, for the XO nodded and left the compartment without further comment.

The structural diagrams continued to flop across the display screen and the Captain shook his head in silent aggravation.

"You wanted to see me, Captain?"

He looked up. The Ship's Surgeon. The Captain gestured toward the screen. "We're having some problems."

The Surgeon glanced at the screen. "Not my department," he declared brusquely. "What's *your* problem?"

"Sleep."

"Sleep?"

"Can't seem to get any."

The Surgeon looked into the Captain's eyes. "When was your last rest period?"

The Captain turned back to face the control panels. "Before we entered this system."

"I've a variety of medications guaranteed to give you a good period's rest," suggested the Surgeon.

"No," said the Captain, shaking his head. "I want something to keep me alert, not put me out. I'm tired but I want to finish up here first."

"That's not very wise."



"Doctor," began the Captain, lowering his voice, "the political situation Homeward worsens each voyage. We both know that."

The surgeon nodded.

"There will be war within the year—that you may not have known." The captain paused until the surprise faded from the Surgeon's face, then continued. "When that war comes the first thing to be scrapped will be this program. This could well be my—our—last tour. I don't intend to sleep through it."

"I understand that, Captain—rest."

"Not now."

"It can't be put off like that. Sooner or—"

"Twelve hours," the Captain said flatly. "That's all I want."

The Surgeon was silent for a beat, reluctantly nodding. "Twelve hours: no more. And even that will catch up with you eventually and knock you flat on your back." He turned away. "I'll have a corpsman bring it to you."

"Thank you," said the Captain. He watched the Surgeon disappear down a passageway and turned back to stare at the nearing planet . . ."

\* \* \*

Anthony awoke. The can slipped from his fingers spilling beer across his stomach and onto the bedclothes. Cursing, he leaped

down, simultaneously tossing the can in the sink and brushing away the amber puddles with a cupped palm, until only a considerable damp spot remained. He looked up when he heard someone opening the camper door, bathing him in Utah sunlight.

Professor Morris Bickford hoisted his overweight, grunting bulk into the camper and pulled the door shut behind him. "Oh, here you are," he said. "I was wondering where you had gotten off to . . ."

Anthony gestured nervously. "The heat was driving me nuts."

Bickford pulled a chunk of ice from the block in the small refrigerator and held it against his perspiring forehead.

"I can assure you, you are not alone," he said drily. "I suspect we'll be wrapping up soon and able to get out of this God-forsaken country. Twenty-seven years I've been a paleontologist and I still hate the desert."

Anthony smiled without much sincerity.

"You disapprove?" The ice was dripping now.

Anthony sank down behind the tiny breakfast nook, pulling back the cotton curtains, letting the light hit his face. "Are you much on dreams?"

Bickford shrugged. "I hate them, if that's what you mean."

"No," responded Anthony, shaking his head. "Analysis. Interpretation."

Bickford put his wet hands on the table. "Not my forte, I'm afraid. Why?"

"I just had a damn strange one."

The large man looked at the pools of water he had left on the plastic surface of the table. "Oh?"

"I've never experienced anything so vivid, so . . . detailed. I was on a spaceship, and yet I wasn't. I was someone else, someone . . . like me, but . . . alien. It was strange yet familiar; I seemed to understand perfectly everything that was going on. Nothing felt the least bit mysterious or frightening." Anthony looked up from the floor with a smile. "What do you think about that?"

"I think you have a far more active imagination than I thought. That, or the heat's *really* gotten to you." Anthony chuckled self-deprecatingly as Bickford continued. "The heat out here affects people in different ways. I've seen PhD's crack up for want of something better to do."

"Is that a standard prognosis?"

Bickford smiled. "For you, I don't think so. Prehistory means too much to you."

Anthony smiled again.

Bickford straightened. "Well, you're not being paid to lounge about in the shade and hallucinate. Come on, I've got something I want you to take a look at."

Anthony rose and followed Bickford out of the camper, blinking in the burning haze. They

moved away from the encampment toward the excavation site where a number of people, on hands-and-knees, whisk-broomed and dusted some powder away from fossil impressions.

He had the shuddering feeling of being a graverobber, a feeling he'd never had before.

They walked through pulsating heat that was like a living thing. He watched the others pulling and tugging the dead from their biers, shattering stone coffins with pick and hammer. They stood waist-high in a desert graveyard. Tombs. Houses of the Dead. Anthony heard again their laughter and gasps filling the quiet desert place.

He stared at a chuckawalla that peered at him from beneath a pile of stones. It gawked with stupid reptile eyes that were dim and bleary from the heat.

Anthony followed Bickford as he dropped down into the lower excavation area, next to where Doctors Shelly Thompson and Oliver Brenner sat sipping beer and talking softly to each other. They looked up and smiled in greeting.

Anthony put his hands in his back pockets and said, "Well?"

"See for yourself," invited Shelly, gesturing at the wall of stone before them.

Anthony found himself staring at a foot square section of a smooth silver substance embedded in the rock. He stepped forward and studied the metal carefully. It ap-

peared to extend beyond the exposed area.

"It's not a natural formation," said Brenner, as if reading Anthony's mind.

"It has to be," he answered inanely.

Shelly looked at Bickford. "What'd I tell you?"

Anthony shifted his gaze from Shelly to Bickford, who pushed himself forward. "Take a good look," said the Professor.

Anthony moved closer and studied the metal. He reached out a slightly trembling hand and ran his fingers over it. Cool, smooth. He felt his heart thump rapidly against his ribcage.

Brenner was at his ear. "Well?" His voice was a hissing whisper.

"It's obviously machined," said Anthony reluctantly.

"Shelly," said Bickford, "what's your approximate date on this area?"

"About seventy million years before there was anyone around to think about metallurgy, if that's what you're asking," she said dryly.

Anthony shook his head unbelievably. "Can't be. This could have been tooled yesterday."

Shelly pointed at nearby upraised croppings of fossil-bone. "Look for yourself: you've got a piece of what is probably a Triceratops right in front of you and Ankylosaur vertebrae over here." There was a sharp edge to her voice and Anthony wondered how much

longer she would be sleeping with him.

He looked at the fossils, then the metal, and said, "There's a discrepancy somewhere. I don't know what but there has to be. Have you found out anything about this thing yet?"

Bickford looked up from the patch of silver. "It's a small portion of a much larger object."

"Like what?"

"Won't really know that until we dig it out," said Brenner.

Anthony surveyed the wall of rock. "You're going to have one hell of a job."

"We'll blast where we have to."

"Do that and valuable specimens will be destroyed," answered Anthony.

"I don't think so," said Bickford. "We've got a lot of digging ahead of us and we'll lift most of them out first. It should be no problem."

Brenner nodded. "I'll get the others." He spun about and clambered out of the lower level.

All six expedition members toiled through the blistering afternoon, crouching and brushing and tapping and picking and cleaning and sweating until at last they found themselves squinting through the graying light of dusk, wrapping the last specimen in a plaster shroud.

Bickford slapped his hands against his trousers, splattering

gobbets of wet plaster to the ground. "I suggest we finish up in the morning. I'm certain that everybody here can use a good night's sleep."

The group nodded as one and trickled exhaustedly back to campers and sleeping bags and freeze-dried suppers. Only Anthony remained, studying the now larger but still unrecognizable metal layer that was sited impossibly beneath the rock that had lain undisturbed since the Age of Dinosaurs. He wasn't certain how long he stood there but the night was fully upon him when he felt a light touch on his elbow. He turned. "What were you so bitchy about today?" he asked.

Shelly shrugged and smiled, saying, "This thing scares the hell out of me."

Anthony cocked his head to one side. "Scares you?"

She nodded. "Things like this just aren't possible." She rubbed her hands across bare forearms, looking about. "But it's staring me right in the face. I'm beginning to think I made a mistake chipping into it in the first place."

"I'm scared too." He answered her gravely. "But no one's made a mistake. It's there. We can't change that." He nodded toward the shimmering metal.

Shelly returned his smile and said, "I wish we *could* make it go away. I really do."

Anthony helped her out of the excavation and they walked toward

the camper, his arm about her waist. Before they entered he cast a final glance toward the lower level and was relieved to find he couldn't see anything in the poor light. He turned back into the camper and shut the door behind them.

"What's wrong?" she asked a mutually frustrated hour later. Anthony pulled back the curtain from the small window above his head and stared up at the stars. He shook his head as he spoke with a trace of a laugh: "Guess I'm a little more frightened than I thought." They slept.

\*\*\*

The ship was among the stars again. It had lurked in his mind like a memory as he fell asleep, and it was there again as he dreamed.

A red light flashing. Hurting his eyes. Startling him.

"Captain!"

He—the Captain—turned. The red light winked with a horrid intensity from the center of the console. "Compensate!"

"No response!"

Figures rushing in and out of the compartment.

He tried to look at their faces.

Concern and fear. The XO was speaking to him:

"Captain, we may not be able to make a soft landing under these conditions!"

"We're going to have to try!" Confidence. Assurance.

The XO again, fear in his voice:

"Even if we do make it, the regenerator's gone. We won't be able to leave!"

The Captain turned. "If we don't do something, we won't be alive to worry about it!"

The XO turned and was gone from his range of vision. The Captain turned back to his monitors and looked at the land beneath them. Brown water and choking green swamps. He felt hot tears of anger and frustration well up in his eyes. Two years. Two years travelling this lonely edge of the galaxy, only to be stranded on an inhospitable, savage world. And now this. He strove to contain his rage.

The XO spoke from a view-screen: "Captain! We've done all that we can. Advise you make adjustments as soon as possible!"

The Captain looked a question at the crewman beside him.

"Two minutes, sir!"

The Captain turned back to the console. He reached for the manual controls. The helm answered sluggishly. Not fully, not enough. But it answered.

And all the faces around him smiled the nervous smiles of youth redeemed with hope. He glanced at the monitor and watched the land streaking beneath them. He saw great creature-shapes moving through the foliage.

"Thirty seconds to contact, sir!" The Captain steadied the ship as it vibrated through the alien atmosphere. The ship sheared the tops

from the towering vegetation as it descended still lower and the Captain struggled to direct it toward a wide, marshy area as he watched tremendous creatures lumber panic-stricken from its screaming path.

Then sound was all around them, upon them, filling them. A scraping cacaphony of ripping, shredding metal. Monitors and computer screens flashed out in agonized reply to the buffeting. He heard someone crying and saw another man skidding across the deck. The floor should have been strapped in.

And the ship was still.

They were down.

They were alive.

The Captain stared at the one still-functioning monitor screen and saw mountains smoking redly into a gray sky, the land green to the horizon. "Lieutenant," he said slowly in the heavy silence, "will we be able to survive here?"

"The early probes indicated favorable conditions, sir. The atmosphere's rather thin and somewhat heavy in volcanic pollutants, but it can support us adequately until a rescue can be made. I'm not certain about food and water but we have our own supplies . . ."

"Micro-organisms?" the Captain asked.

"Nothing standard survey immunization procedures can't handle."

Another man leaned forward. "Sir, shall I dispatch a message to Control?"

The Captain nodded. "But I want you all to realize that, on the outside, we won't be picked up for five to six months. So, we might as well make ourselves at home." He made his way toward the cargo hatch, the small crew following him. He touched the electric airlock controls and the double-walled chamber opened into the yellow sunlight.

He moved forward, the others still following. The air filling his nostrils was sharp and bitter with ash but it would keep them alive. He stepped down the small ladder onto the spongy green. It made a wet, squishing sound beneath his boots as he took several tentative steps forward. He turned and beckoned to the others, a broad smile on his face.

They started to step down from the ship when an animal roar filled their ears. They looked about, nervously fingering their weapons, but could see nothing. "What was that?" asked the XO, moving up beside the Captain, who smiled again and said, "We are clearly not alone on this world." They continued to walk about the open area, always staying close to one another in deference to the roars of beasts as yet unseen.

It was the Lieutenant who finally saw the first creature bobbing and jumping on slender legs at the edge of the marsh. He cried out with excitement and the others looked, but the thing disappeared, skittering into

the darkness of the jungle. They shrugged and turned back into the ship to rest from their excitement and relief. The Captain was certain he could finally catch up on lost sleep.

The small carnivore had moved about a hundred yards into the ferns and cycads, eyes glittering in search of prey when its legs suddenly went stiff and it toppled into the dark humus of the forest floor. It struggled to stand and found its forelegs paralyzed also. There was no terror in the small brain, only a dull sense of pain that grew stronger as convulsions wracked the prostrate body. It choked several times, red spittle trailing from its jaws to the ground. Then the creature was still, and there was no sound in the air but the buzzing of flies . . .

\*\*\*

Anthony could still hear the flies when he awoke, sunlight slanting through the curtains of the camper. He looked about and realized the buzzing was outside. Shelly was already gone. He jumped down to the floor. As he pulled on trousers and a workshirt, he reviewed the dream, amazed once again at the clarity with which he recalled even the minutest detail. It was like nothing he had ever experienced and it gnawed at his brain even more insistently than the metal anomaly in the lower level. He stood motionless for many moments, wondering if there were not some greater sig-

nificance to the events that transpired so vividly in his sleeping mind. He was still wondering as he slipped on his boots and moved out of the camper, slamming the door behind him.

The heat had not yet made its pressing appearance and the morning sun was low in his eyes, making him squint as he walked toward the digs, his breath a vague steam in the morning cold.

Bickford and the others were there, including Shelly, who glanced at Anthony with an unreadable expression.

"Morning, Doctor. Sleep well?" Always cordial Bickford. He hefted a pick.

"Had the dream again," said Anthony, reaching for a shovel.

"Same one?"

Anthony shook his head. "Another installment."

Bickford brought the pick down into the rock with a *clank* and Anthony fell silently to work, still thinking of the dream.

The morning was getting warm when Bickford finally dropped the pick and said, "Well, we're not getting anywhere this way. We might as well blast and see what we've got here." Anthony nodded and helped break out the small charges, arranging them carefully over a wide area centered on the silver extrusion.

They worked quickly and soon Bickford was waving them all to safety, as he jumped out of the

lower level. As soon as they were all clear he detonated the charges.

There was a sound like hundreds of cardboard boxes being crushed and they watched a cloud of dust rise from the site. Anthony looked at Bickford and said, "Did you ever think you might blow whatever it is you want to see to Kingdom Come?"

"Sure," said Bickford with a smile, moving back toward the lower level. Anthony shook his head and looked after him.

The dust was a fog in the air but Bickford could see clearly enough. And what he saw produced an audible gasp.

Brenner was behind him. "I don't believe it."

"What is it?"

Bickford found it hard to speak. "Why, it . . . it looks like some kind of . . . aircraft."

Anthony stared at the "aircraft." He recognized it immediately.

His mind wrestled with itself, trying to explain, working to justify. Failing. At the end of every possible turn a stone wall. The ship was there, partially buried in the settling rubble of the blast and it was the ship in his dream. He had seen it. He knew how it had come to be trapped in the stone-that-was-then-mud. He *knew*. But how? How? His question plunged him into an even deeper silence.

Brenner's voice was shaking. "It's a hoax, a fluke of some sort . . ."

"Brenner," Shelly replied, "You know that whatever this is, it got here sometime during the late Cretaceous."

"That's not possible. There wasn't anything like this then. There was no one around to build it." Brenner stepped forward. "I submit to you we've got nothing more here than another Piltodon Man. This obviously belongs to the Air Force and—"

Bickford put up a single hand, saying, "It may be obvious to you, Doctor, but I'm not so sure. I think the first thing we should do is attempt to open it up. If it was manned, there should be records inside . . ." Anthony watched the Professor move toward the ship and said nothing. He continued to do battle with his mind.

It didn't take them long to find the large cargo hatch in the exposed belly of the craft. Bickford paused and gestured toward the shredded and damaged control surfaces of the metal. "Look here," he said. "They must have crashed. Look at the damage."

The others moved forward. Anthony looked at the damage. Just like the dream.

"It's remarkably preserved," someone was saying.

"Don't see how it wasn't crushed," someone else said.

"We'll find out soon enough, I hope," said Bickford, feeling around the hatch. His fingers fell upon a metal lever and he grabbed

it firmly. "Ah, here we are."

Fear and doubt warred in Anthony's mind. He could no longer stand on principle and the vanity of his intelligence and he suddenly found his voice, believing the dream, conceding the impossible. He stepped forward and cried out: "Professor Bickford!"

Bickford pulled on the lever and the hatch slid free, falling to the ground heavily. He jumped from its path and looked up at Anthony. "What?"

The others hurried forward and Anthony hung back. He shook his head slowly, saying, "Nothing." Bickford shrugged and peered into the darkness behind the hatch with the others.

Anthony turned, raised himself out of the excavation. As he was walking toward the camper he felt his legs suddenly stiffen beneath him. He fell onto the coarse sand of the desert floor. He struggled to stand and found he couldn't move his arms, but it did not surprise him. In his last, fleeting moments of consciousness he understood a number of things with a painful, fevered clarity.

\*\*\*

Had they not crashed, perhaps they would have been more cautious, would not have made such an obvious error: but their negligence went unobserved and unchecked, as invisible to them as the harmless



clouds\* of their own bacteria and micro-organisms.

To the giant reptiles, shivering through the first hints of the climatological upheavals to come, the bacteria were not so harmless. There was no immunity, no defense against the unseen and alien predators in the very air and even the early mammals—warm masses of fur and hunger—spent millions of years conquering the tiny killers. But the saurian ranks were decimated—wiped out—by the plagues, until only a handful of the hardier species survived, perverse reminders of the reluctant visitors to a prehistoric Utah.

With death-clear vision it made sense to Anthony now.

The rescue ship, when it came, brought not only salvation, but news of the terrible war that had erupted in their absence. There would be no salvage of the wrecked ship, for the Program was abandoned in the interests of the war-effort and the useless shell was left behind—routinely sealed like an almost-empty bottle; in the bottom of that bottle, like sediment in an old wine, still more bacteria slept, their life-processes almost suspended within the machine-tooled darkness.

They did not take part in the seventy-million-year battle of evolution that had made their one-celled, plant-like sisters harmless to the countless forms of life beyond the air-tight hull; they existed in near-

unchanging complacency, hovering between life and death with the strictest economy of activity. Constant, stubborn, patient—

But Anthony still was unable to understand the full significance of his strange dreams. What had precipitated them? The ship was never retrieved; no one had ever returned to earth. Did the war ultimately destroy all of them or had this small planet on the backward side of the galaxy simply been forgotten in the turmoil? If he had believed in such things Anthony might have concluded that the Captain's soul journeyed back to earth to whisper ghostly warnings into his ear as he slept; or perhaps the crew left psychic traces of themselves behind when they departed, like footprints in soft mud.

There were so many possibilities and so few answers. However he had come to peer into the past made little difference now, for he had not listened to the warning, had not spoken soon enough. The last of his questions were blotted out by the convulsions that wracked his body. His final conscious thought was to wonder to whom he should apologize.

He choked several times, red spit-tle trailing from his mouth into the sand, then he was still.

After seventy million years very few of the bacteria had managed to cling to the minimal lives that they had maintained for so long. But there were enough. ★

## we told you so

Mostly, people say: "I hate to say it—but I told you so." We have to say it. That's our business. And, almost incredibly, as this country's oldest weekly, we've been "telling you so" for nigh on 112 years.

Still, we're not in the scoop story business. As analysts and probes into the dynamics of political events, we get to know where the fault lines are and consequently, where the earthquakes may occur. The news media do the follow-up job of telling you what number on the Richter scale the quake hit.

The Bay of Pigs, for example, is one big quake we called long before "The Press" knew what hit them and us.

The expert academics, the Ralph Naders, the Ted Kennedys who write for us mostly tell it straight—in English rather than in the jargon of a dogma or the latest new-found quick and easy push button way to socialism. We're proud that a lot of people consider us the sane voice of the left-of-center sentiment in America.

If you send us a dollar we'll send you two weekly issues. If you like it, you might want to subscribe. You ought to take a look at *The Nation*, it's really something quite special.

SEND ME an issue for two weeks. Here's my dollar and my address and zip code.

NAME \_\_\_\_\_

ZIP \_\_\_\_\_

**NATION**

333 SIXTH AVENUE, NEW YORK, N.Y. 10014



**A**HEM. In line with the overwhelming vote in my favor, by the readership of this column, I hereby accept the mantle of leadership—

“Alter, don’t be so pompous. You’re not taking over the country.”

Quiet, Geis! I’m in command here! You have been deposed, voted out, coupé, and rendered null and void. Do not interrupt my acceptance speech again.

“Just because Jim Baen called you and told you the vote was 19 to 2 in your favor . . . Wait till the Old Guard vote comes in.”

Huh! I call upon Jim to give us the final vote.

((JIM?))

\*\*\* silence \*\*\*

You see, Geis? Virtue and the Goof Fight for Freedom have triumphed.

*\*Grump\** “I smell a conspiracy. You and Jim got together behind my frontal lobe and—”

Nonsense. The readers have spoken. I, Alter Ego, will be writing this column from now on. You will note, Geis, that you are now the one who must speak in quotes. From now on, Establishment Man, you will be the one who is sarcasted, humiliated, reviled, treated with contempt, put-down, and kept in his place. We’ll see how you like it for a change.

“I don’t like it already. Jim! This gag has gone far enough.”

There’s no escape. The fathead is in the fire. Now, Geis, SHUT UP! Where was I? Oh, yes . . . I accept the mantle of leadership and will to the best of my ability—

“Ha!”

—will do my damndest to provide keen insights—

“It is to laugh.”  
—and wisdom to the field of science fiction and fantasy, so help me Ghod.

“Wisdom! HAW!”

Geis!

“Just doing to you what you used to do to me. Sauce for the Prime Self is sauce for the Alter Ego.”

I . . . will . . . ignore . . . you.

“At your peril.”

My platform shall be one of stomping the hell out of science fiction that is lazy, ritual and boring. I will continue to call for more realism, more use of contrary, non-conformist ideas and futures, and better characterization.

“That’s like being for motherhood, the Constitution, and apple pie. Everybody calls for all those ‘better sf’ things. Let’s hear you be more specific. Give us some examples.”

Okay, take the dreary, overworked, boring Evil Computer theme. The sentient slave of mankind who Takes Over.

“Something like what you’ve done with this column, humm, Alter?”

Don’t be a smartass, Geis, or I’ll throw you down into the Archives. My point is that it’s so easy for sf writers to go on year after year using anti-science, anti-computer, anti-technology as a basis for their stories. They write for publishers who use the latest electronic, computerized word-processing machines to set up and print their mass-

produced books, they write on electric typewriters of advanced design, they watch solid-state TV, they drive cars and use other devices daily which wouldn’t exist were it not for computers and other aspects of advanced technology . . . and they unthinkingly bite the hand that feeds them and makes their lives more comfortable and convenience-full. Everybody has a yen to live the ‘simple’ life of the pioneers, but very few people today realize how complicated subsistence farming is, and very few could stand the dirt, the work, and the lack of modern work-savers—for more than a month.

“But, doesn’t the evil computer make dictatorship by the evil government easier?”

Crap. We’ve had easy dictatorships on this mudball since the year one. Contrarily, mass communication and computerized recordkeeping may just make it more difficult to institute a government dictatorship, since 99% of the computers sold are in private hands. The computer is a two-edged tool with unrecognized social virtues. But the knee-jerk anti-establishmentarianism disease which afflicts most conformist writers insists that computers are evil, insists the personal car is evil (but try to pry theirs away from these writers!), and views the giant corporation as anathema. This is now social dogma. I tend to resist such fashionable must-believe faiths. The trouble is, most people

today don't recognize dogma when they step in it. They've been brainwashed all their liberal lives to think they think.

"My Ghod, Alter! What have you become—an out and out Conservative? A . . . a *Republican*?"

Label me not, Geis. I'm an alien in an alien world and I hate non-think, boring, unexciting science fiction. For a change, just for the hell of it, to get the old mental gears moving again, I call for some stories in which technology and computers save the world, and in which the antitechnology, anti-capitalist forces are not heroes, but are shown to be acting out a hatred for their parents and are seeking not to save mankind from a fate worse than death, but actually want to become what they say they fear—dictators.

"You ask too much."

Probably. I just thought I'd throw out some alternate thinking. Doom has become so dull this past year or two.

"Alter, you've given some examples of contrary ideas, but if I may say so, they are also dogmatic establishment Establishment themes. Hardly non-conformist."

They are in the context of science fiction. But let me bounce this concept off your granite pre-frontal lobes. Don't you think more government is actually better, and that we all live better lives for having ever more regulation and control in our lives?

"Oh, Alter! You have flipped! You—"

I can make a case, Geis. Consider: members of primitive tribes are governed very strictly by complicated tribal codes and cast-iron customs. Every aspect of their lives is regulated by narrow, inflexible tribal laws. Deviation is severely punished. Yet a far greater percentage of members of tribes are contented with those laws and customs (and happier, overall) than are the citizens of this advanced country with the present laws of all kinds.

It has to do with security, emotional and physical. People secretly love rules and regulations, as long as the rules are seen as fair, equitable and permanent. Freedom—having to make decisions all the time in a 'situational ethics' world—is terrifying for most people. They hate uncertainty and insecurity in morality, ethics and law. Otherwise—nothing makes sense. "Laws!" people cry, "for the love of God, tell us what to do!"

So my point is that once mankind gave up tribalism he gave up the sweet, womblike security of the small, tightly-knit group . . . and has been seeking it in unions, lodges, clubs, parties, religions, dogmas, ever since. Civilization is wracked with the unhappiness of tribeless people. Perhaps with the aid of mass communications and the computer, we can attain that tribal level of intense, multi-structured government once again—and bb

emotionally secure and happy again. Happiness may turn out to be Big Daddy and Mommy Computer, godlike, seeing all, knowing all, dispensing equal and fair justice, giving advice, giving the security of a law, regulation, and procedure for every occasion, every crisis.

"Bah, Alter. You make people to be mere children!"

True. It may be that 99% of people are, in their heart of hearts, mewling children seeking love and warmth and a greater moral and physical strength than they possess. They may all be in want for those all-encompassing codes, those security-blanket relationships that mean belonging and being cared for. So let's hear it for the government, Geis. For all our faults it loves us and wishes to serve and protect us. Government is good. Our problem is not too much government, but not enough in the right forms and intensities.

"Nice try, Alter. But it'll be a cold day before there'll be any science fiction published on that theme."

True. True. Or on the idea that maybe a king/dictator form of government isn't so bad after all.

"Don't forget the anarchists and libertarians. They claim their views are taboo in science fiction."

That's what they say, but it's not quite true anymore. There are more and more anarcho-fans and there are a few writers who are putting total freedom ideas and philosophies into

their stories. Don't forget that Heinlein is a libertarian, though his requirement of responsibility for oneself and his dictum that There Ain't No Such Thing As A Free Lunch are not popular with the something-for-nothing crowd. Heinlein isn't fashionable anymore.

"Fine, Alter. You've had fun with possible underlying themes for science fiction. Now, be serious. Be heavy. Give us wisdom. What is your prescription for the perfect government?"

The perfect government? That's simple.

The perfect government (and I include the unwritten codes of society) is one that rationally allows every spiritual, emotional and physical need of people to be met, to have a means of legal satisfaction—an outlet. For this government to exist, however, requires an acceptance by people of the concept of body/mind, and a rejection of the old mind-over-matter, spirit-over-flesh view of man's makeup that has dominated our world view for so many centuries.

"Let us be specific here, Alter. You are speaking here of legalized prostitution, pornography, drugs, crime?"

Yes, because these activities in society have always existed. They are necessary. They have a function. They are reflections of man-as-he-really-is, not man-as-he-should-be, which is what govern-

ment and religion keep trying to enforce.

I say we should admit these aspects of humanity, admit them and permit them. Recognize that a few people will always be around who will choose drugs for their form of rebellion or self-punishment, and there'll always be a small market for pornography, and always a need for some commercial sex.

"Too sensible, Alter."

I realize that. Making these things legal and regulated would put too many people out of work.

"But there is the problem of making these social and legal no-no's permissible—they lose their appeal as crimes and rebels and Guilties would seek other avenues of satisfaction. Something of this has already happened, hasn't it? Are you saying that revolutionary murder, hijacking and other high crimes should be legalized?"

No. Maybe more swift and sure punishment is in order for the extreme aggressions and violent neurotic types. Early testing and training in talent and aptitude—and a sure job—would go a very long way toward eliminating theft. In addition, some hard thought should be given to legalized public suicide and public punishment. It should be humiliating and shameful and often painful punishment, depending on the crime . . . and the desired expiation of guilt.

"You mean even if legally I haven't committed a crime, I could

ask for and be given punishment?"

Of course. It would be like religious confession. Only more effective, because more drastic and thus more satisfactory to the Guilty. There's too much private and masked self-punishment. Too often other people get hurt.

"You astound me, Alter."

Thank you, Geis. Next question.

Let's shift over to the problem of excessive or invisible characterization in science fiction. The problem of too much soul-searching or too much cardboard."

Ah, yes . . . whether 'tis nobler in the mind to suffer the slings and arrows of outrageous introspection, or by opposing, get stuck with stereotypes. That is not quite the question, Geis. It is true, however, that too many writers feel that if their central character thinks a lot about life and death and the depressing variations of his predicament, that is characterization.

Phoo. It is only another lazy-writer method of padding and conning. Characterization is making a fictional person distinctly individual! I have gone for years of reading science fiction and enjoyed only a few characters who were actually alive and kicking. Most characters are zombies with whole sections of their brain missing, and most are, physically, merely 'slim,' 'fat,' 'tall,' 'beautiful,' 'handsome,' 'well-muscled,' and etc. What I'd like to know is additional individual realistic detail: club toes?, a mal-

formed little finger?, receding hairline?, a mole kept hidden by an artfully arranged shock of hair?, lobeless ears?, stretch marks?, premature arthritis in a knee?, neck too long?, long-waisted?, Roman nose?, big hands? That sort of thing.

"You expect writers to work that hard? Must they go to all that trouble? After all, it's only science fiction."

True, and sf readers will put up with anything, won't they? Nevertheless, I'm demanding even more. I want to know (and so do hundreds of thousands of other starved-for-good-writing readers) what kind of soup a given character likes—does he eat lefthanded?—what his favorite colors are, what turns him/her on sexually, is he a stoic, an optimist, action-oriented, passive, an egotist, an egoist, prideful, lecherous, dishonest . . . Is the character loyal, a liar, gentle, impatient, merciless, loud, quiet, gregarious, solitary, suspicious, trusting?

"Now, that's *really* asking too much, Alter. Writers can't stop and give all that information about a character! It would stop a story in its tracks."

Where is it graven in stone that characterization must be dumped into the reader's lap all in one swell foop? Good characterization—all the aspects of a fictional person—is detailed as it naturally comes into play in a story. Thus: 'His bleeding hand was loose on the sword hilt.

His weak lefthanded thrust . . . 'The startling blue of her right eye contrasted with the milky blindness of the other.' Bah! This is obvious. Why lecture?

"Because you're giving the readers some yardsticks. Some standards for judgement in their reading. Now all they have to do is turn a page or two and start another story in this issue, and read with part of their minds on what you've just said. Of course, I could have said it better."

Don't start in again, Geis. I'll squelch you with one tendril tied behind my head.

"You call that warped mass of ugly green flesh a head? I call it a rotting melon."

Oh, Geis! Get Lost! I don't need your insults. Go do layouts for *Science Fiction Review*.

"I will. But first I'm going to end this column."

Yeah? How?

This body is mine, remember. I only let you take control for typing purposes. This column has gone 12 manuscript pages, and that's enough. All I have to do is pull the switch up here in the mid-brain. . . ."

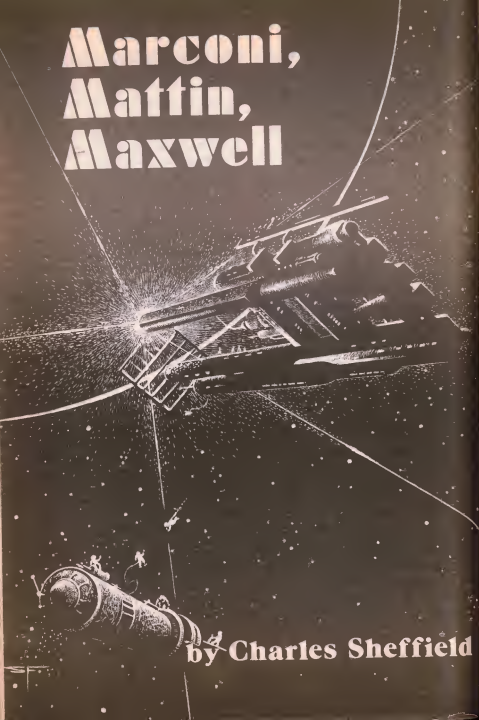
No—no, Geis—

"Now to press the *off* button on the typer. . . ."

You double-crossing rat! I'll get you for this! I'll bushwack you in the cerebellum! I'll dry-gulch you in the medulla! I'll cut you to ribbons in the sensory cortex! I'll wipe you out in the autonon—★



# Marconi, Mattin, Maxwell



by Charles Sheffield

**Even in the company  
of Genius, Gerald  
Mattin was unique!**

**V**ENUS STATION.  
Saturday 24th, 2:30 a.m.

Dear Professor Benson,

The draft of Gerald Mattin's biography for your volume 'The Lives of the Great Scientists' is finished. I am sending it to you under separate transmission. Sorry to run so close to your deadline, but it's hard to compress his twenty-five years into twenty pages.

Your other request for new 'personal incidents' and 'intimate touches' from my time working with Mattin is a tough one. As you say, no doubt I knew him as well as any man did. Everybody knows that he saved my life at the expense of his own, so that's not new. "How would you describe the real Gerald Mattin?" you ask. How would I describe the *real* Gerald Mattin? I'm not sure the words are in the language. And if they are, you would not want to offer that particular 'personal touch' to your young readers.

What can I say? I think the best thing is to tell you here—and for the first time—the full story of my

association with Mattin; then you can use any of it as you think fit. Don't be surprised if it doesn't match the standard accounts too well. And don't get worried about the biography I'm sending for your book—I need the money, and what you will receive tells the well-known official version of Mattin the Great and Noble Scientist.

When it all began twenty-five years ago I still had my offices on K Street. My business partner had recently vacated his office as a result of an unsuccessful trading venture in pharmaceuticals. He was on the Venus terra-forming project, three years hard labor without the option, and I was trying to make sense of his business records and client lists when Mattin breezed in.

No appointment, of course. He would never have dreamed of calling in advance. He barged in without knocking, said "Henry Carver?," and helped himself to a chair when I nodded. I looked at him without much enthusiasm—as a potential client he was not promising material. About twenty-four years old, thin as a stick, with dry black hair and a face that was still fighting the last battles with acne. He was smoking a black cigar that looked as thin and wicked as he did.

"I'm Gerald Mattin. I'm here to give you a chance to make fifty million credits, Carver," he said.

Well, you can't always go by appearances, and politeness is free.

MARCONI, MATTIN, MAXWELL

"Mr. Mattin, you certainly know how to catch a man's attention," I began smoothly. "But you have the advantage of me. You know my profession and I don't know yours. What is your line of business?"

"I've got a system for instantaneous point-to-point transfer of objects. Energy-free, in the right circumstances. Distance not a factor."

If I'd known a bit more science that's when I'd have thrown him out of the office. I groped around in my memory for childhood reading.

"You mean—teleportation?"

"Naw. None of that 'think yourself some other place' rubbish. This is solid match, solid physics, and state-of-the-art engineering. Ever hear of Ernst Mach, or Minkowski, or Weyl or E.A. Milne?"

Milne rang another bell in my childhood memory bank. I thought of Eeyore and decided Mattin must be off his head. I shook mine and he seemed pleased.

"Good. I want a working partner who knows not too much science and no general relativity. If you'd given the wrong answer I'd have been out of that door. The people who gave me your name were sure you'd have a fifth grade education in physics." He grinned nastily. "You also have a reputation for being a tricky lawyer, a man with good contacts for investments and a strong taste for credits. Unless you want to deny that lot, let's talk business."

He was brash, arrogant and rude. But he had mentioned fifty million credits and that didn't happen every day. I suppressed my irritation.

"Mr. Mattin, I am sure that you did not come to see me merely to offer gratuitous insults. You have a method for moving objects—a matter-transmitter, you might say. Now, if you want me to act as your legal representative in pursuing patents and corporate financing for transportation groups there will be several formalities. First, my fee for such work is a ten percent carried interest, plus expenses for patent search, filing fees and travel."

"Carver, you're a raving madman." He stood up abruptly and walked over to stub his cigar in my window pot of prize fibrous-rooting begonias. I mentally added a percent to my fee. "In the first place, you'll get two percent and no expenses, take it or leave it. This thing will be worth two or three billion credits five years from now, conservatively. In the second place, do you think I'm crazy enough to patent this thing, or let some big transportation company get their hands on it? There'd be leaks, I'd be out in the cold before I could whistle and the big boys would be off and running."

Paranoid, he seemed to be. I dropped my first idea of selling him out to General Transportation, and he went on.

"What do you think I'm offering you your interest for? I can tell you

now, it's not for your smile or your legal abilities. I want you to promote this, sell a forty percent interest to a group which isn't in transportation now, but which would like to be if it could get a big enough piece. That's your job—to raise the money. If you can't do it, tell me now and we'll stop wasting each other's time."

I thought for a while as Mattin sat and fidgeted. It might be possible. We'd need a working model—the group I had in mind would need pretty good proof that they were onto a good thing. And I'd need to know a lot more about it before I began. I had already seen enough of Mattin to agree that I would have to be the salesman. I nodded slowly.

"Maybe. How much money do you need to get things going?"

"A million credits—maybe a million five."

"That's to set up the whole transportation company?" I asked.

He laughed. "No way. That's to do the full-scale tests—after that we'll need big money."

He was insane, I decided. A million credits for a test. He saw my expression and backed off a little.

"Look, Carver, you have to know more about this thing. It's a completely new principle. It's only energy-free, exactly, for transfers in a strictly Lorentzian space-time. Where there's curvature—matter—you need some energy even if the Link transfer points are on timelike geodesics. You need a lot more

energy if the transfer points are not on timelike geodesics but are on a Newtonian equipotential surface—and you need an impossible amount of energy unless the configuration is perfectly symmetrical with respect to all Link transfer points."

At the time, and for a long time afterwards, that speech was complete gibberish to me. I don't have total recall, but I do know Mattin's exact words—I learned long ago to record in full all conversations in my office. That has saved my skin more than once in the past. I shook my head at Mattin.

"I hear you, Mr. Mattin, but I can't make head or tail of what you are saying. Tell me in English, please."

He shouted back at me. "English, you dummy! I already put it in really simple-minded language for your benefit." He controlled himself and swallowed hard. "I'll put it even simpler for you. To set up the Mattin Link system on the surface of the Earth is the end objective, but it's going to take tremendous energy to establish and a lot of money. We just can't tackle that first. It's not possible to set up a practical system out in space, because the relative distances of the Link entry points keep changing."

"What we have to do is test it in space, for the simplest case—four entry points, in a regular tetrahedron. It will still be quite a trick to get the distances just right for long enough to do the transfer, but it can

be done—I've calculated it. Then when we've demonstrated it in space we'll be able to get backing easily for the operational big system here on Earth."

I was getting the idea, vaguely, and I didn't like the sound of it. Mattin had no working model. So, no model to show the backers. A million credits before we could demonstrate anything. Space work—always a fine way to run up the costs. I wondered if I was the madman, listening to Mattin at all.

"Can't you make just a small working model, here on Earth?" I asked. "Just to show off the general idea?"

"Out of the question. The Earth-based system has to have all the entry points practically symmetrical with respect to the center of mass—I told you, they've got to be on an equipotential, and perfectly symmetrical with respect to each other." He shook his head firmly. "Even the simplest system with four Links will require a horrible amount of energy to initialize on Earth. That's basic physics—the system's not conceivable without it. It's space or nowhere for the test. Now, how long will it take you to get adequate backing?"

I looked at him sadly, and shook my head in turn. "It's quite impossible. With no patents, no working models—nothing, in fact, but an idea—we could never get the financing."

Mattin looked at me with a

dead-fish expression on his face.

"Tough luck, Carver," he said. "I guess that's goodbye to your fifty million credits."

I won't tell you how I found the backing, Professor Benson. It makes me uncomfortable to think of it even now. Can you imagine trying to raise millions of credits, with nothing but a wild-sounding idea to peddle, with a main character who was so paranoid that he would tell the details of his system only to people that he judged could not understand them? With no working models, no mechanical drawings, no patents.

I did it. I don't think I could or would do it again, but I did it. I proved that there are people greedy and rich enough that a bet with a multi-billion credit monopoly payoff could be attractive, even with those odds. But then, my backers were no strangers to gambling.

They left me in no doubt of what my fate would be if the Mattin Link system was less than I promised, but in ten weeks I had the papers—such as they were. Our sponsors were not used to much in the way of written agreements. I called Mattin and he came to the office. Like the backers, he was suspicious of video-phone conversations.

He came in as sullen and jittery as ever, then went over the agreements with a total and cold concentration. Oh, I'd checked Mattin out, you can be sure of that,

within a few hours of our first meeting. No one had denied that he was a genius—and a madman. I really saw the first evidence of it when I watched him swallow down all the intricate financial details of our arrangement cold, in one sitting in my office. Then he came right back at me with a set of complex questions for our sponsors. He digested the new information with equal speed, then silently handed me a document of his own.

"I know how much I'm worth to your friends once the system is working and the method known," he said. "I took out a little life insurance."

He had the right idea. Once the invention was proven, he'd be expendable and so would I. The paper he had given me was a copy of one he had filed at Central Bank. It was quite brief. If Gerald Mattin died in less than five years from the date of the first successful demonstration of the Mattin Link, all rights in the invention—mine, Mattin's and the backers'—went to the World Government, in toto and in perpetuity.

"What about my five percent?" I complained. "You know I'm reliable."

(I forgot to mention that I'd levered my interest up little by little as the game got harder—and I'd earned every fraction of a percent. Mattin was smart enough to know when he had to give a little to keep me going.)

Mattin looked at me curiously as though he had just turned over a stone and found me underneath it.

"Sure," he said. "You're reliable."

I didn't pursue the point—but I didn't mention the document to the backers either. They might kill Mattin *after* the successful demonstration; they would have killed me *before* the demonstration, without thinking twice about it, if they had found out I had gotten them into a deal where Mattin's accidental death would mean their loss of ownership.

Those gentlemen did not seek temporary solutions. Besides, I was sure I could convince them that Mattin was worth more alive.

Anyway, we had the money for the tests. I handled all the purchasing—four old cargo hulls, already in earth orbit, four power plants and a minimum of supplies. Mattin hid himself away in total secrecy and built four Mattin Link generators, one for each cargo ship. He calculated exact orbits for each, and an exact time at which all four Links could be switched on, when the hulls were in free fall at the vertices of a regular tetrahedron. Finally, he made up a compact test package for the transfer itself, designed to measure the forces it experienced in transit. Theoretically they would be zero, he asserted—no question of inertia or of acceleration entered the Link transfer process.

All this took six long months, but

it was all ready on time. I added weight and ulcers. Mattin became thinner than ever and bit his fingernails to shreds. We hired three operator crews for the hulls, with Mattin handling the fourth one himself—the one with the experiment package to be sent through the Link system. He gave the other crews just enough instructions to be useless—he was afraid they would learn too much. The Mattin Links were all activated automatically by radio from the computer on Mattin's ship at the correct microsecond.

Finally, the big moment arrived. I watched through a video link to my office in K Street. I don't like space, never have. I sat at my desk and watched a digital countdown to the time the transfer would take place.

The tension was unbearable. Finally, after a few seconds that lasted forever, zero hour came. And went. Nothing. The test package sat there in the Link transfer zone, unmoved. I sat and shredded paper towels as the minutes ticked by. Nothing. When I was ready to run screaming round the room, Mattin came on the screen.

"Something's wrong," he said. I could have told him that. He didn't seem as worried as I felt, not by a long shot. "It's almost certainly in the phase control. Tell the backers we'll have to come back to Earth so I can take a good look at it."

I may have been less smart than Mattin in some ways, but I was

way ahead of him in others. One thing I had been careful *not* to do was tell our sponsors when the test would be made. I sat there and congratulated myself on my foresight.

"How long before you're ready to try again?" I asked.

He shrugged. "Month, maybe, two months—hard to say."

That was the beginning of the worst time of my life. Seven failures, Professor Benson. *Seven!* Every one of them a cliff-hanger. Each countdown in my office was like the moments before an execution. By the third test we were sending things through the Link—but the test equipment would arrive inside out, melted, reduced to powder (tests three, four and five respectively). On the sixth test, the equipment got through in one piece—a bit battered, but not bad. Unfortunately we had promised our backers that the Mattin Link could be used to transport people as well as objects, and that's what they were expecting to see.

On the seventh test, Mattin seemed very pleased with the results. This time he was on the cargo hull where the test equipment was arriving. He came on to the video link and gave me a thumbs-up sign.

"The equipment came through fine, meters all working properly. Still needs work, though."

"Why does it need work, if the Link did its stuff correctly?" I looked at the video and could see

the test equipment, apparently in good shape. Then I looked more closely. Next to the equipment were a big grey pancake and what seemed to be a long hairy worm. "What are those things?"

"Well, I said it needs a bit more work," Mattin said defensively. "I think the phasing is still a touch off. See what it did to the rats we sent through this time."

I looked again at the hairy shapes, then had to run across my office to vomit into the only available container, which was unfortunately my long-suffering pot of prize begonias.

"No big problem," said Mattin cheerfully. "A week's work should fix it."

Before he could get his week, we had a new problem. We were running out of money, and our backers were running out of patience. I was summoned to a chilling meeting, behind the stage at the opera house in Mexico City. One of our backers was big on opera. The message I got was brief but precise. There was no more money in the pipeline, but there was big trouble in it unless we had instant success. I talked—for my life.

We were almost there, I swore, another few weeks would do it, one last test was all we needed.

I had to wait three hours in the cold, empty backstage. Finally the word came down. Two weeks to prove ourselves. No more money. We had to find our own. I knew

what came next if we failed and took the gloomy news back to Mattin. We considered our limited options.

"Look what we need," he said. "First, we have to rent another cargo hull and power plant. One of the four we got has an expired lease and we can't renew it. So we need money for that. We have to have it. But we don't really need crews on all the hulls. They never do anything anyway, and it's all computer-controlled to switch on the Links at the right time. We could manage the whole thing."

My insides did a rapid cartwheel. "What do you mean, we? You're not trying to get me up into space, are you? You know I've got a weak stomach."

"Look here, Carver, are you absolutely convinced this test will work?" he replied. "I am, but are you?"

I thought about that, then shook my head. "It'll flop, ten-to-one odds."

"Then where would you rather be if it flops—here to face the backers, or up there with a decent chance to escape to the Lunar Base or the Venus terra-forming project?"

Mattin was odious, but supremely logical. I scraped up what was left of our meager finances and went off to bargain with the friendly discount spaceship company.

We managed to get a cargo hull and a power unit, but so cheaply



that I knew there had to be something wrong with them. I just had no alternatives. I signed a short-term lease and called Mattin. He was ready. I had no excuses left. The next morning we were off to pick up the cargo hull from parking orbit and load the power unit on board it.

If you've never been in space, Professor Benson, take my advice and don't go. Free fall is constant nausea, a sort of static seasickness. After we were installed in the cargo hull with our equipment, I had nothing to do but think of my general misery and the unknown dangers of space travel. While I was doing that, Mattin was frowning over the rented power unit.

"How much did you pay for this thing?" he finally asked.

"All we had."

"Well, it's all set to blow, looking at these readings. As soon as we complete the Link transfer, it has to be shut down—it's not safe."

A power unit running amok was all I needed.

"What happens if it blows before we complete the Link?" I asked.

"We get into the shielded compartment," Mattin replied. "It's intended for use in bad solar flares, but it works just as well if a power unit goes wild."

I took a look at the shielded compartment. Ample room for one, but a tight squeeze for two.

At the other end of the ship the

Mattin Link area was set up, with a blue line drawn by Mattin at the active area where the transfer took place. The test equipment was carefully placed there. Then Mattin fed in the programs for the final orbit adjusts of each cargo hull, ours and the three unmanned ones. While he was doing that, I had another secret worry. The Mattin Link drew a lot of power. It seemed to me that might be the thing that would push our power unit into a final blow-up. I was supposed to be watching the dials, but I didn't know what any of them meant. It did seem to me that a lot of them were way up in the red zone.

Mattin finished the set-up and came over to me again. "How's it holding up? We've less than a minute and a half to go to transfer," he said, then bent over the power unit dials. He turned to me immediately, his eyes bulging.

"I thought you were keeping an eye on this. It's way out of tolerance. I don't think it will even hold together until the Link activates—it could go up any second."

Mattin's evaluation was good enough for me. Without taking a second look at the power unit dials I turned and began my drive for the shielded compartment.

I'll never deny that Mattin always thought a lot faster than I did. By the time I began he was halfway there, and my lack of experience in free-fall slowed me down. When I

approached he had already crowded into the compartment, then turned with his back braced against its rear. As I floated nearer, instead of squeezing to the wall to let me in too he lifted his feet up and gave me a great kick in the chest. It reversed me and I started to spin back along the length of the hull, unable to make contact with anything solid.

One of the things they don't bother to tell you before you go into space is how slowly things can happen. I floated along the hull towards the Mattin Link transfer area, but I did it incredibly slowly. I was quite active, spinning end over end, shouting and screaming and waving my arms and legs, but none of that affected my forward motion at all. When my body had turned to face Mattin again, I saw that the door of the shielded compartment was firmly closed. I didn't imagine Mattin would open it voluntarily to see how I was doing until after the power unit had done its worst. I tried to get a look at the digital countdown display to see how long it would be before the Link transfer took place, but I couldn't see it from the angle I had.

When I finally collided with the bulkhead at the far end, I had no idea how much time I had left. Subjectively, I had spent the better part of my adult life drifting down that steel hull. Actually it was probably a minute at most. I held the bulkhead and did a quick review of my options. In a few seconds I would



Though Damon Knight didn't write this Cookbook for People, his famous story inspired it: *Homme Bourguignon*, *Chili Con Hombre*, *Mincemah Pie* . . . 71 outrageous recipes, lightly illustrated; hardcovers, \$6.95 at bookstores or postpaid from:

## Owlswick Press

Box 8243 Philadelphia PA 19101

be a big pink pancake or a long pink sausage if I didn't get out of the Link transfer area. Or I could be fried purple when the power unit blew. Or—a long shot—I could get back to the shielded area in time, open the door somehow, and squeeze in with that swine Mattin.

I set my legs against the bulkhead and took off with a mighty spring for the other end of the hull. I had been on the way for a second or less when three things happened. First, everything flashed a mother-of-pearl pink. Then I received a tremendous bang on the head. Finally I was given an even bigger smash on my chest and ears. Then I passed out and had a little peace.

Things were not much better when I came to again. The pain in the head and chest were still there, and I had aching eyeballs—I didn't



# **GALAXY BOOKSHELF**

Spider Robinson

*The Fantastic World of Gervasio Gallardo*, Bantam/Peacock, 38 plates, \$6.95

*Once Upon A Time*, ed. David Larkin, Bantam/Peacock, 44 plates, \$6.95

*Richard Corben's Funny Book*, Nickelodeon Press, lotsa pages, \$10.95

*Bloodstar*, Richard Corben & Robert E. Howard, Morningstar Press, pages & price unknown

*The Wind's Twelve Quarters*, Ursula K. LeGuin, Bantam, 277 pp., \$1.75

*Star Light, Star Bright*, Alfred Bester, Berkley/Putnam, 248 pp., \$7.95

*Man Plus*, Frederik Pohl, Random House, 215 pp. \$7.95

*Midworld*, Alan Dean Foster, Ballantine, 213 pp., \$1.50

*Stellar #2*, ed. Judy-Lynn del Rey,

Ballantine, 209 pp., \$1.50  
*Bolo*, Keith Laumer, Berkley/ Putnam, 179 pp., \$6.95

*The Unpleasant Profession of Jonathan Hoag*, Robert A. Heinlein, Berkley, 214 pp., \$1.50

*The Craft of Science Fiction*, ed. Reginald Bretnor, Harper & Row, 321 pp., \$9.95

*Rocket to the Morgue*, Anthony Boucher, Pyramid, 173 pp., 95¢

*My Name Is Legion*, Roger Zelazny, Ballantine, 213 pp., \$1.50

*Nerves*, Lester del Rey, Ballantine, 180 pp. \$1.50

I HAVE ALREADY BEEN to the library. I gave them two full cartons worth. And the obvious dogs, too vile for the library, have long since been converted to fire-starter—so much, in fact, that I may not need

to burn any wood this winter. And STILL I find that there are by honest count 114 books on my desk for review, considerably obscuring my view of the Bay of Fundy. These are the cream of the crop, you understand, the ones I just can't ignore.

To list that many books would triple this column's length (and my workload) and doubtless incense the authors so honored.

So I can only suggest you subscribe to *Locus* (15 issues for \$6 from Charles & Dena Brown, 34 Ridgewood Lane, Oakland CA 94611), which has the space and inclination to list a thousand titles a year.

And, of course, jump in and take as big a bite as I can.

Here's this month's mouthful.

\*\*\*

Some visual treats, first, four volumes of two different sorts.

You only need me to tell you about *The Fantastic World of Gervasio Gallardo* and *Once Upon A Time: Some Contemporary Illustrators of Fantasy* if they are unavailable in your area. Because if you ever happen across them, you're certain to buy them (assuming you can afford them) regardless of what I say. Both are so fiendishly exquisite as to beggar description (with a slight edge to Gallardo), and both left me with the same breathless feeling I got when I first discovered M.C. Escher.

Gallardo resembles Escher in some ways, too—although he's strictly a painter (I do lots of woodcuts, myself, but I burn them all in

my stove). Even if the name doesn't ring a bell, you've almost certainly seen Gallardo's work: he has appeared on book covers and record jackets, in story-illos and advertisements, in magazines as diverse as *Penthouse*, *Seventeen* and the *Ladies' Home Journal*—you'll recognize him when you see him. And don't expect from this list that he is your standard hack commercial artist—he is An Artist, and a hauntingly good one. His surrealist, insanely-detailed style will delight my tired eyes for years to come, and I thank Betty Ballantine for compiling and sharing this collection. Even if she just couldn't help herself.

Thanks are also due for *Once Upon A Time*, a sort of visual revue from fifteen artists currently working in the fantasy field. Editor David Larkin has assembled an absolutely splendid company, here: Tony Meeuwissen, Nicola Bayley, Brian Froud and Peter Barrett are my particular favorites, but I didn't dislike any (with the possible exception of Ian Miller, whose vision is just a bit harsh for my taste), and virtually every plate is a treat. The collection includes (as a stupendous four-page foldout) the enormous and beautiful Pauline Ellison painting which, trisected, became the covers for Bantam's edition of Ursula K. LeGuin's *Earthsea Trilogy*.

Both *Once Upon A Time* and the Gallardo collection are from Bantam's Peacock Press, the folks who brought you *The Fantastic Art of Frank Frazetta*—which is to say, the reproduction is as achingly beautiful as the material itself. A science fiction fan is by definition

GALAXY

BOOKSHELF

one whose sense of wonder extends as far as his eyes: consequently, every one of you should enjoy these treasures.

\*\*\*

Now for the second type, the two volumes the New York Times critic probably *wouldn't* like.

If you're a long-time reader of "underground comics," you don't need me to tell you about Richard Corben. I got my first hit from "Cidopey" in *Up From the Deep #1*, and I've been addicted ever since: Corben's vivid suprealism and cinematographic style have kept me haunting convention huckster rooms for years, searching feverishly (and usually fruitlessly) through moldy copies of *Skull* and *Slow Death* for MORE CORBEN ILLOS.

If you *don't* know Corben, check out *Richard Corben's Funny Book*. Published by Tom Reamy's Nickelodeon Press, it is a reasonably complete collection (in oversize, coffee-table-book format with hard covers) of Corben's underground work, on 13 stories written by himself, Ed Faust and Jan Strnad (that is not a typo). At least a third of the stories themselves are either dumb, trite, or extremely simplistic by "overground" sf standards—but even the worst is a cut above Marvel Comics' average, and the artwork is almost uniformly excellent. Further, for those of you who are dedicated Corben freaks, the collection contains not only the first part of "Den" (from *Grim Wit #2*), but eight more pages, unavailable anywhere else in English, in

color (unfortunately, this section too is "to be continued" somewhere).

In fact, my only real complaint is that only Part II of "Den" and a minor story called "Lame Lem's Love" are in color. I realize that stuff's expensive, but I wish to God Reamy had opted to give us "Cidopey" in color if anything ("Lem" wasn't even colored by Corben). Ah, well—I'm still profoundly grateful to have this excellent collection, and grateful to Tom (most recent winner of the John W. Campbell Award for Best New Writer, by the way) for slipping me the review copy at the Worldcon.

But I'm even *more* impressed by *Bloodstar*, Corben's most recent work.

The graphic novel is virtually brand-new, as an art form. It grew out of the "serious comic book" (sercom?), which might more properly be called the graphic short-story (or at best, serial). The graphic novel is an attempt to make a GOOD comic book out of a full-length piece of work. The only ones I knew of up until MidAmeriCon were Gil Kane's *Blackmark* and Byron Preiss's *Starfawn*.

*Bloodstar* is superior to both by an order of magnitude.

For one thing it's (like the *Funny Book*) enormous, a coffee-table hardcover with excellent paper stock—which allows for *much* more ambitious artwork than the paperback and digest sizes of *Blackmark* and *Starfawn* respectively. For another thing, it's got a pretty fair story (the jacket flap says it's by Robert E. Howard, the title page says Howard and John Jakes, and the back-flap describes Corben

as "the author." There's a bio-blurb on Howard and none on Jakes—you figure it out), not first-rate but rather engaging, and certainly better than the whiz-bang Preiss contrived. But mostly it's got Corben, who here achieves his apotheosis. This is plainly his most mature—and most consistent—work to date, a talent in full flower. At the convention I heard the publisher of this book opine that he had made a mistake in not printing it in color. I'm surprised to find myself disagreeing. Much as I admire Corben's volcanic use of color, I have to say that here it might actually have distracted me from the subtle perfection of his airbrush work, of his masterful use of shadow and light.

Finding *Bloodstar* and the *Funny Book* were two of the highlights of MidAmeriCon for me, and I've since read each of them three or four times, lingering over nearly every panel (*Bloodstar* doesn't use borders, a delightful innovation). If you want to do the same, write to Nickelodeon Press, 1131 White, Kansas City MO 64126 for the *Funny Book*; and The Morningstar Press Ltd., P.O. Box 6011, Leawood Kansas 66206 for *Bloodstar*. Be warned: their superb size and paperstock make them bloody expensive. But they're both worth every cent. If you asked me to choose, I'd agonize for several hours and then pick *Bloodstar*: a genuinely magnificent achievement.

Tell 'em Spider sent ya.

\*\*\*

Let's get some fiction 'round  
BOOKSHELF

here, by gar. Lord, where do I start?

How about *The Wind's Twelve Quarters*?

Well, that one gives me problems. It's far too good and important to give it a mere minireview—and yet, once I've told you that it's Ursula K. LeGuin's first short story collection, containing 17 stories from 1962-1974, with introductions by the author, the only thing I have left to tell you is that if you don't make arrangements to buy it at once you are a turkey's idea of an idiot. It includes "Omelas" and "Revolution," (Hugo and Nebula winners respectively) and a lovely cover painting (you'd think that Bantam, which published *Once Upon A Time*, would credit their cover artists), and it put several warm happy hours in the middle of a chilly and busy month, and it will do the same for you if you'll only buy it. What are you doing just sitting there? You know where the bookstore is. I'll wait.

\*\*\*

Are you back? Good—turn around and go back to the bookstore. You forgot to get *Star Light, Star Bright*, the second volume in Putnam's short-fiction-of-Alfie-Bester series. Again, it would be pretentious and redundant to say more than that this contains 9 stories (5 from the out-of-print *Starburst* collection, 3 from the also-o.o.p. *Dark Side of the Earth*, one from Harry Harrison's *Astounding* antho) plus introductions, one three-page "interview" with Isaac Asimov and an autobiographical

sketch called "My Affair With Science Fiction," all unarguably written by the whackiest and most explosively brilliant writer of our age. Ursula will share delicate beauty with you; Alfie will drop a mouse in your pocket and push you into the ladies' room.

And make you love it.

\*\*\*

Fred Pohl's *Man Plus* was a tight, suspenseful, at times gruesomely fascinating book, with a blockbuster finish—but I put it down unsatisfied.

Well, not exactly. I mean, a polished expert like Fred (Pohlish expert? Naw—we don't sink to Pohlish jokes in *this* column) is always satisfying to read—especially in comparison to the bulk of the sludge on my desk. It was only a part of the premise I didn't believe. But it was a significant part.

Basically the plot revolves around an attempt to place a man on the surface of Mars (and keep him there, alive). To do this it is necessary to redesign (and therefore redefine) "man." Fred's near-future military establishment does this by essentially turning a man into a gargoyle: a particularly hideous cyborg, who has been given "every assurance" that they'll do "everything possible" to restore him to "something very like normalcy" after the mission. There are at least two complications: first, he's not the first—his predecessor died, cause unknown; and second, his wife is messin' roun' with his bes' friend. The psychological drama of the said sap is absorbing and

agonizingly drawn, and the other characters are just as real-seeming.

Ah, but there's a third complication, of the "ticking bomb" school: the world political situation is rapidly going to hell, and The Last War is just around the corner. As it draws ever nearer, no less a character than the President of the United States (and . . . certain others) pours on more and more pressure, spends his political capital to the limit, in a desperate last-minute attempt to get that damn' gargoyle on Mars. The reason given is that maybe we can plant a seed there before this planet blows up.

But the gargoyle—who is invulnerable and perfectly adapted to a Mars-surface environment—is *not* human, and further *he is sterile*. No, worse: *neutered*, as one of the "minor modifications."

So I don't get it, Fred. That don't seem like planting a seed to me. I can sort of understand the motives of the Certain Others, and I won't blow your surprise ending there—but what did the *President* hope to gain? Extending the human race by one more lifetime? *What?*

But I repeat: except for what seems to me like one dumptruck-sized hole, *Man Plus* is a fine, tightly plotted adventure from an Old Pro.

This business is driving me crazy. Maybe I'll chuck it all and go join a monastery.

Oh, no! Another one of those ambiguous reviews that make me look like a fickle schizoid (say that three times fast). To the above "dandy book with a dumptruck-sized hole in it," let us now add "a mediocre book with some superb

aspects." Let's see him talk his way out of *this* one, gang.

Alan Dean Foster's *Midworld* is a book with flashes of excellence. Like most of Ballantine's list since Judy-Lynn del Rey took over, it is Good Ol' Hardcore SF Like They Used To Write—with some startlingly modern ideas. It has an intriguing premise, a richly inventive background world, plenty action and adventure and a slambang finish. And the prose, the writing itself, is just a cut or two above slushpile level.

I don't mean that only in a fussy grammarian's sense (although sentences like "Furious at missing its prey, the blunt snout swung round for a stab," set my teeth on edge), but in a frustrated reader's sense as well. The sentence structure is frequently awkward, the word choice often clumsy, and the overall pacing effect limps like a one-legged wino in an earthquake. My eyeballs kept tripping.

I have other gripes, including the inconsistent naming system (why are some characters called by mere sounds, like "Jhelum" and "Joyla," while others in the same tribe are called "Brightly Go" and "Reader"?), the mostly one-dimensional characterization, the stilted dialogue, and Foster's failure to answer more than half of the questions he raises (why did Tsingahn commit suicide? How did the tribe survive with insufficient gene pool and insufficient time to mutate far enough? Et many a cetera). But mostly it was sheer poor wordsmithing that made this book a chore to read. The hell of it is that it isn't even consistent—at times, the prose

seemed effortless; occasionally brilliant.

And once I made the effort, as I said, I found some delightful and fascinating *ideas*. But unless you have a tolerance-level that lets you read, say, "He was a normal-sized man, by normal man standards," without flinching, you'll never get to them.

\*\*\*

So there's this tremendous New Wave-Old Wave controversy in sf, with each side bemoaning the intransigent idiocies of the opposition. Me, I tend to bemoan the intransigent idiocies of *both* sides. It seems obvious to me that blending the strengths of both is the best way to resolve the apparent dichotomy (any apparent dichotomy). But Judy-Lynn del Rey's *Stellar* #2 goes a long way toward converting me to pure Old Wavism. I found it much less ambitious than, say, the average *Orbit*—and much more fun to read.

Call it 85% on the Spidermeter. One story I loathed: "Tindar-B," by Patrick Conner, a slushpile job I abandoned after three pages with a clear conscience (Xenobiologists land on a planet about which they know absolutely nothing except that the last survey crew died. So the very first thing they do upon landing is blow the hatch—*not* cycle an airlock, *blow a hatch*—and all take a deep breath at once. To see if the air is safe. I'm not making this up, nor is it meant to be a parody. "Seems okay," Byron ventured as he noticed his heart was still beating. 'So far so good, anyway.' Not by *me* it isn't.). And two



stories only get a half-credit apiece: Jay Haldeman's "Songs of Dying Swans" wasn't up to his usual standard of excellence, and Larry Niven's "Mistake" is self-descriptive (three pages isn't too much for a one-joke throwaway, but it was a dumb joke).

But the rest were uniformly good, with particularly high marks for James White's "Custom Fitting," Hal Clement's "Stuck With It," and Richard S. and Cliff D. Simak's "Unsilent Spring" (although that last had a weak ending), and a double-bonus for "The Bicentennial Man," one of the best stories Isaac Asimov has written in years.

Overall a satisfying book, and certainly more consistent than half of the anthos coming out these days.

Keith Laumer's *Bolo* confuses me some. It's a collection of all the stories Keith has written involving Bolo Combat Units—essentially self-aware tanks, but with planet-wrecking firepower. I had read all of these when they originally appeared, and enjoyed them mightily. So re-reading them was a little . . . painful.

Because the first two, at least, now strike me as just awful, pure adolescent-tripe adventure, wherein impossibly competent heroes waltz through incredible difficulties with James Bondian cool and ridiculous ease. I liked 'em just fine when I was seventeen, but I guess I've just outgrown 'em or something: they now seem contrived and utterly unbelievable (the Bolo gets only a walk-on in the second story, "Courier," and Retief defeats it by

sticking his hat into the gun muzzle). I dunno, maybe I'm just an old fogey. I've gotten quite a few letters from younger readers asking me to turn them on to some Good Old Adventure, and this is sure the pure stuff.

And the other four stories are infinitely better, wringing genuine pathos from the plight of a self-aware behemoth programmed to destroy. "The Last Command" in particular is a classic of tight pacing and suspense, with a moving ending.

Which gives the book a bare 65% on the meter—and yet I enjoyed it a good deal. This seems to be my month for ambiguity. Perhaps I should go join that monastery at that.

\*\*\*

When I spoke with GoH Robert Heinlein at MidAmeriCon, I asked him to autograph my paperback copy of *The Unpleasant Profession of Jonathan Hoag*. Now, I have literally everything Mr. Heinlein ever wrote in my collection (with the exception of his one and only collaboration), some of them in hardback. Why did I choose this book?

Well, it wasn't because it contains "All You Zombies," although that is one of the all-time classics and certainly the god-damndest time-travel-paradox story ever (not to mention the single most-imitated story in science fiction). Nor was it because *Hoag* contains "They," another genre classic and the ultimate logical extension of paranoia as a world-view. No, it was "The Man Who Traveled In Elephants,"

my single favorite Heinlein story of all time, that caused me to take this particular volume to Kansas City.

Friends, I've read that story at least ten times in the twenty years since it first saw print, and every damn time I finish there are honest to God tears on my face, joyful, stinging tears. I've never seen that last sentence when it wasn't blurry, and I don't believe I ever will. I hope not.

I don't want to inflate it out of proportion: it's just a short fantasy, more like the best of Ray Bradbury than most of Heinlein's work. But it catches me, every time. What more can I tell you?

All praise to Berkley for reissuing this volume (a clear 100% on the Spidermeter, if that needs saying), and I envy any of you who have yet to read it.

\*\*\*

*The Craft of Science Fiction* deserves a long and thoughtful review (more like half a column), but I'm (like one of Larry Niven's characters) running out of space.

What this is, is a "symposium," a collection of essays on the craft of sf writing by: editor Reginald Bretnor, somebody named Pournelle, Larry Niven, James Gunn, Poul Anderson, Fred Pohl, Frank Herbert, Alan Nourse, Norman Spinrad, John Brunner, Hal Clement, Jack Williamson, Katherine MacLean, and two newcomers named Ellison and Sturgeon (tee hee). The book is just a kaleidoscope of fascinating insights into this craziest of all professions, uniformly excellent throughout. I consider it a must for

any serious reader, writer or (especially) would-be writer of sf—and teachers of sf and sf-related courses will find it invaluable.

I'm grateful to own a copy: it's like spending a couple of weeks talking shop with 15 of the best in the business.

\*\*\*

Three different people responded to my hint (July 1976 Galaxy Bookshelf) and mailed me copies of Tony Boucher's *Rocket to the Morgue*. Of the three, one asked not to be identified, I've lost one's cover letter, and the third, Lisa Goldstein of Dark Carnival Fantasy & SF Bookstore, 2812-14 Telegraph Ave., Berkeley CA 94705, was forced to admit that "unfortunately, this is not the place to get *Rocket to the Morgue* as I am sending you our last copy." Oh well.

I urge the rest of you to hunt for it: a fine tight murder mystery by a late Great, with some delightful surprises and a locked-room murder—plus the added pleasure of an insider's view of sf pro-and-fandom of the 1940s, in which subculture Tony set his story.

Spotting the Old Pros in their thin disguises is of course part of the fun—but even if you don't happen to know any pro well enough to spot them in Macy's window, you'll enjoy *Rocket*. Thanks, Lisa—and if the person whose letter I lost will write again, I'll be happy to return your copy, or pass it on to a good friend, or whatever stones ya.

*My Name Is Legion* is not about Liz Taylor's husbands. It's a collection of those Roger Zelazny stories

about the really-secret agent who doesn't appear in the World Data Banks (which he helped compile) and is therefore effectively invisible. Every year he sends one unsigned Christmas card to the head of the world's second-largest detective agency, listing four dates during the next year and the bars he'll be in on those dates. Remember now? In these three novellae, Roger's hero takes on underwater earthquakes ("The Eve of RUMOKO"), killer dolphins ("Kjwalll'kje'k'koo-thai'lll'kje'k'") (honest to God), and a berserk robot ("Home Is The Hangman," which just won a Hugo in spite of the fact that Roger forgot to explain, both here and in the original magazine publication, why the hell the robot was called The Hangman). A pretty good book, of the "think-man's adventure" school.

\*\*\*

I've been saving *Nerves* for last. If you haven't read this book yet, you're a lucky soul: rereading it for review was the most fun I've had all month. Don't be dismayed by the new cover (which looks like David Steinberg, with his face on crooked, being attacked by lime jello)—this is one of the acknowledged classics of the field, and a textbook example of how to build suspense to the breaking point. Newly revised and updated, it is perhaps the first and certainly the finest of the disaster novels, probably Lester del Rey's finest work to date (and when, oh when will there be a new del Rey book?). Crisis in the atom plant, building at mea-

sured pace from a murmur to a sustained shriek, and seen through the eyes of a character I feel like I've known all my life: go get it. Some of the science is now outdated . . . or is it? See Lester's delightful afterword.

\*\*\*

A last-minute plug, for those of you who are Callahan's Place fans: *Callahan's Crosstime Saloon* will not be a Tempo paperback after all. Ace bought Tempo, along with the rest of Grosset & Dunlap, and so *Saloon* will be an Ace paperback. And as near as I can outguess the time-lag (between the time I write this and the time you read it), it ought to be on the stands either right now or any day now. If you're not familiar with Callahan's Place, I humbly suggest you check it out: some of my best short stories are in that book (for those of you who are familiar with the series, the collection will contain three stories available *nowhere* else). And why haven't you bought my first novel *Telepath* yet (available in hardcover from Berkley/Putnam)? It's been out since December—whassamatta, you don't like yourself or somethin'?

Oh, and I've decided not to enter that monastery after all. Not only did I meet with vigorous objection from my wife and daughter (not to mention my creditors), Dick Geis threatened legal action. He claims there's only room for one altar-go in this magazine (even God is not a constant any more; they've changed His mass).

See you in church.

★

GALAXY

All in all, he was  
a very lucky man . . .



## Tom Purdom The Chains of Freedom

**H**ARRY DAVENPORT had been hearing people talk about controllers ever since the day the first controller had been planted in the skull of an anonymous convict in a state prison in California. People had argued about controllers at half the parties he had attended during the last two years and he had even started a couple of arguments himself before he had realized he would be better off if he headed for a quiet corner every time the subject came up. His wife and all her friends were convinced every male in the United States should be given a complete battery of psych tests at the age of twenty-one and fitted with a controller if he needed one, and they started crusading for their great project every time a beserker stuck a knife in somebody or some idiot managed to throw something lethal at a politician.

He had never actually seen a controller, however, and no one had ever had to tell him there was a big difference between a tangible reality and a topic you argued about at parties. They had been talking about the damned thing for at least thirty minutes now, but he still stiffened when the psychologist took it out of a drawer and laid it on his console.

"You can pick it up if you want to," Dr. Lazaro said. "Sometimes it's a lot easier to think about something like this once you've actually touched the thing and looked at it close enough to read its brand name."

Harry stared at the little plastic box through a haze. The shiny object inside it was a little smaller than the marbles he had played with when he had been a kid. The three

micro-thin filaments coiled on one side were almost invisible.

"They tried to design it so it would be as unobtrusive as possible," Dr. Lazaro said. "Most of the people who've used them so far claim they never even notice they're wearing it. It has to be implanted under the skin by a surgeon, but all it needs after that is a quarterly maintenance checkup and a bi-monthly ten minute visit to have the reservoir refilled. It's completely automatic and it usually reacts so fast the person who's wearing it doesn't even know he's started to lose his temper. The surgeon places it so it deposits the drug on the brain cells that react the fastest and the brain waves that trigger off the monitor have a unique configuration. It can react the instant it picks up the right type of brain wave, without waiting for it to build up. You may be aware something has happened that would normally have made you lose your temper, but normally you won't even feel an increase in your blood pressure. The brainwaves start changing long before the rest of the body can react."

Harry stared at the box without picking it up. His brain had stopped functioning thirty minutes ago but his emotions would have been screaming with panic if the bastards had tied him down and loaded his system with a drug that reduced his IQ by fifty percent. He was a mathematician himself and he had understood the situation as soon as Lazaro had told him the results of his tests. He worked with mathematical models that could predict minor fluctuations in the North American economy and

Lazaro worked with mathematical models that could predict the actions of any individual who would submit to his tests. Individuals could still make mistakes, but Lazaro had checked his work with three other psychologists and nobody outside his field could challenge his results. If Lazaro's computer said Harry Davenport was going to go berserk and kill somebody in the near future, then Harry Davenport was going to kill somebody if somebody didn't put him out of action first.

"That still doesn't make it an easy reality to accept, of course," Lazaro said. "It's still a terrible thing to ask anybody. Most people feel personally insulted when its mentioned to them, and I don't blame them. We've done everything we can to make it as innocuous as possible, but it's still a terrible blow to any normal man's self-esteem. We're living in a culture in which that kind of external control is associated with weakness or with a loss of freedom and nobody who lives in a culture like that can adjust to this kind of change overnight."

Harry sat back in his chair and crossed his legs. He was a wrinkled, middle-aged man who had been a leader in his profession for over fifteen years, and he had always been proud of the fact that he could maintain an urbane front under almost any conditions. The people he worked with were just as quirky as any group of people he had ever met, but he usually managed to keep his emotions under control and avoid the impulsive reactions that could turn minor situations into full scale emergencies.

"I'm afraid it's pretty damned hard to believe, too. This is the first time in my life I've ever done anything that could even be considered violent. I wouldn't even watch boxing matches with my father when I was a kid."

Lazaro waved his hand over the printout on his console. He was the senior psychologist in the clinic but he was about ten years younger than his client, and his crisp clothes and carefully molded hair made him look like an advertising man's picture of the successful young man who dashed out of the office at the end of the day and spent the evening running around the city with the best looking girls in the area.

"That's one of the main reasons it's always such a shock," Lazaro said. "A person with this type of personality can go along for years and years without hurting anyone and then he can ruin his whole life in an instant. There even seems to be a strong association between this trait and a couple of traits most of us consider desirable. Most of the people who have this problem seem to have a strong sense of responsibility to society and an above-average capacity to get along with people. We've never been able to spot the people who lead normal lives and then blow up without warning before now, and the results are usually a shock to everybody."

"And this is all you can do? This is the only treatment you've come up with?"

"It's the only treatment we've come up with anybody can recommend. The only alternative would be a re-shaping of your personality that would be so basic and so ex-

tensive you'd probably resist it even more than most people resist this—and the techniques for re-shaping personalities are so primitive you'd have no guarantee you wouldn't be a complete emotional cripple when you got finished. Some people blow up because they're repressing very strong grievances, and we can help them bring their anger up to the surface and teach them how to control it. But with a small number of people you're dealing with something that seems to be inherent in the structure of their personality. I can give you more information about personality re-shaping if you want it, but I can practically guarantee you'll think this is a better option."

Harry's hands tightened on the arms of his chair. He lowered his head and stared at the thing on the console as if he were thinking about a decision in front of a subordinate.

"We'll give you all the support we can give you if you agree to do this," Lazzaro said. "We'll try to make it as easy as possible."

There was no way he could keep Ellen from knowing they had done this to him. He would stand in front of his wife and son with that thing in his skull and they would both know it was there. Everybody they knew would hear about it sooner or later.

\*\*\*

*Daddy couldn't help it when he hit you, Danny. He has a sickness that made him hit you but Mommy made him go to the doctor and they've given him a little machine that gives him some medicine when*

*he starts losing his temper. Some people have emotions they can't control—you may even have them yourself—but we're living in a wonderful world where people are beginning to understand themselves better and learn how to control these things.*

*I always knew there was something wrong with him. Remember how he used to get hot every time we talked about controllers? These calm, stable types are all alike. They try to look like they're made out of rock but they're always boiling like cauldrons when you open them up and get a look at their real feelings.*

*You hate him and you hate me Harry. You've spent all your life talking to computers instead of people and now it's catching up with you. You've been hiding your feelings about other people behind that Goddamned mask you wear and now all that rage you've never learned to deal with has finally come out. I don't want to make threats, Harry, but I'm not going to let you go on living with that poor boy if you don't get some professional help. You could have broken his neck if you'd hit him any harder and the things you've done to his emotional development are probably just as bad. There isn't a court in the country that will let you keep custody of that poor child after this.*

"We're asking you to do this to protect others as well as yourself, Dr. Davenport. The least we can do in return is to use the resources we have here to make it as easy for you as possible."

"So you can help me reduce the

damage to my self-esteem?"

"Some of the things that make this repulsive are inherent in the basic idea. There isn't anything anybody can do about them and there isn't any point in pretending there is. But sometimes some of the things that make it painful can be handled pretty easily if somebody will just take a little trouble. A lot of people are afraid of the way their families may react, for example. Sometimes a good talk with the family can make the whole thing a lot easier to take."

Harry's body tensed. His hands clutched the arms of his chair as if he were sitting in a car that was speeding toward a collision.

"I don't know how you feel about your son, for example, but there are things we can tell him that will make it easier on you and that will still give him some assurance you didn't hate him when you hit him—and that will let him know his father is still a man he can respect, too. They're hard problems to handle by yourself but we can give you expert advice. We've got films we can show him and we can work out programmed sessions for your whole family that are almost guaranteed to make the whole thing much more tolerable. The fact that your wife's had some experience in psychotherapy may help, too. People still think about this the way they thought about ordinary mental illness at the beginning of the century. A wife with the right kind of attitude can make it a lot easier to face the rest of the world and—"

Harry's fists clenched. He pushed himself out of the chair and Lazzaro tensed.

He looked down at the well-dressed, self-confident young man sitting in front of him. Lazzaro's right hand moved toward a keyboard on the righthand side of the console.

Harry's fist rose above his shoulder. Rage twisted his face. His fist swung toward the psychologist's head like a rock on the end of a rope.

Lazzaro punched a button on his keyboard and kicked his chair away from the console. A cloud of white gas blossomed out of a nozzle built into the console.

Spring breezes played around Harry Davenport's head. He sucked in a big lungfull of gas and his muscles relaxed. Warm, pleasant sensations spread through his body.

He pulled in another lungfull. He knew they had designed the gas so every breath would make him want more, but he was just as vulnerable as every other human being who had ever breathed it.

He slumped into the chair. The cloud drifted toward him and he sucked in more gas.

Lazzaro eased himself out of the swivel chair. He stepped up to the console and studied his patient.

"Are you all right, Dr. Davenport? Does your head hurt?"

Harry stared at him out of the haze. The quick-acting tranquilizer had started wearing off already. His body still felt warm and heavy but he was already beginning to react to the situation again.

His fists clenched again. He started to stand up and then fell back.

"You goaded me into doing that," Harry said. "You pushed every Goddamned button you could."



"I didn't know you'd react that way. I was trying to bring out the things that may be bothering you but I didn't know you'd react that way. I've got a good idea what they are but I wouldn't have mentioned them if I'd known you'd react that way."

"You don't know the things that'll trigger it off? You've got me all mapped out on your Goddamned diagrams and you don't know when I'll do it?"

"I should have realized. We're putting you under a tremendous stress; half the people in this city would blow up if somebody put them in the kind of dilemma you're in. I miscalculated the impact I was going to have, but I wasn't trying to make you blow up. It's happened twice now already, Dr. Davenport, and you've been lucky both times. You're caught in a trap and this is the only way we can set you free. It's a rotten deal to hand anybody, but if it's your relationship with your wife that's bothering you, why don't you at least give me a chance to talk about it with you? There are things we can do nowadays that can make this whole business a hundred percent easier. We spend more time with the families of our clients nowadays than we do with the clients themselves."

"There isn't one Goddamned thing you can do with that woman! You don't know the kind of person you're dealing with! She's been going to encounter groups and human relations clinics ever since she was a Goddamned teenager and the only thing they've ever taught her is the best place to poke people where it hurts!"

"We can set up specially programmed sessions for her. We can introduce her to encounter groups and experiences that can break down the defenses of people who've practically made a career out of going to encounter groups. We can even offer her the kind of full-scale self-analysis every psychologist has to go through to get his license to practice."

"You aren't going to change her damned behavior by helping her understand herself! You don't know the kind of person you're dealing with!"

"You think she'd make this difficult for you even if she understood her motives?"

"You don't know the kind of person you're dealing with! You're giving her the biggest Goddamned present she's ever had! She's going to enjoy every damned moment of it!"

Lazarro glanced at the clock on his console. It was two thirty in the afternoon and he had left the rest of the day free.

They had passed the big barrier charted on the printout. He had been afraid it would take all day and it had taken less than fifty minutes instead. The next few hours were going to be some of the worst hours Davenport would ever live through, but the end of the afternoon was as predictable as the orbit of a spaceship. A man like Davenport could adjust to anything once he got it out in the open and started talking about it.

"You think she's going to enjoy this, Dr. Davenport?" Lazarro said. "You think she *wants* you to put up with something like this?" ★

# THE BEST FROM Galaxy VOL. IV

Masterworks by some of the finest  
science-fiction writers of our time:

Michael Bishop   Larry Niven  
J. E. Pournelle   Joanna Russ  
Roger Zelazny

AND MANY, MANY, MORE!

EDITED BY JAMES BAEN

THE BEST FROM GALAXY, VOLUME IV (AR 1599) is now available. To order, send the title and number, your name and address, \$1.75 plus 25¢ postage to:

AWARD BOOKS  
350 Kennedy Drive  
Hauppauge, N.Y. 11788

Please allow eight weeks for delivery from our receipt of your order.



## DIRECTIONS

Dear Mr. Baen:

Bravo! and congratulations on your editorial "Epistle to the Christians". I concur totally. It was a brilliant interpretation; I only wish more people could share these beliefs, or at least see them as a possible viewpoint. If we could only reset our priorities enough to get funds for those things which are technologically feasible, we would take a giant leap forward, with the momentum carrying us on indefinitely. But you didn't discuss just how far we should carry this "dominion" stuff.

Jerry Pournelle, as usual, had an excellent column "That Buck Rogers Stuff" in *A Step Farther Out*. However, I don't agree with some of your methods. We had better avoid atomic drives, especially fission, when close to inhabited planets. Of course there's more than One Earth, but let's be especially careful with this one!

Larry Niven's "Children of the State" and Fredrick Pohl's "Gateway" are both Out-A-Sight, and all your shorts are acceptable if not truly excellent. Keep up the good work, GALAXY!

Faithfully yours,  
Vincent Wolfe

10824 West 68th Avenue  
Arvada, CO 80004

*Certainly we should avoid significant radioactive contamination of Earth's atmosphere. Perhaps the best "thrust mix" would*

*be a combination of chemical reaction drives for personnel and laser launching for material, when launching from Earth, combined with atomics for Lunar and cis-Lunar activities.*

Dear Mr. Baen,

During a Christmas season filled with the efforts of Science Fiction and Fantasy writers to incorporate their specialties into the Nativity, I found your editorial "Epistle to the Christians" a refreshingly intelligent approach.

I feel that you may receive verbal fire from fundamentalists. Perhaps the following quotes from American astronauts may add to the validity of your conclusion:

"Once a man flies in space, he may never be the same . . ."

Edgar D. Mitchell

Apollo 14 Lunar Module Pilot

"My space flight experience changed my entire view of reality on Earth . . . gave me a profound feeling of rejuvenation."

Col. Alfred M. Worden

Apollo 15 Command Module Pilot

"The whole process begins to shift what it is you identify with. From where you see it, the Earth is a whole, and it's so beautiful. And you realize that you've changed . . . something about your relationship with this thing we call life. It's different and it's precious."

Russell L. Schweickort

Apollo 9 Lunar Module Pilot

" . . . however you look at it, the observation is humbling because the tenuousness of our existence is emphasized by the need for man to get into harmony with his environment and with his fellow man."

Col. Gerald P. Carr

SkyLab 4 Commander

If in fact the vision of Revelation is toward the stars, then the first impressions of the astronauts that man in space will see himself as Man may justify that vision.

GALAXY

Surely we must unify ourselves as individuals and as a species before we spread our seed through the cosmos.

Thank you again for a most thought-provoking editorial.

Sincerely,

Thomas C. Davis  
212 Leaverton St.  
Palestine, IL 62451

*Thank you. So far response to that editorial has been astonishingly supportive . . . Frankly I had thought I was being rather more daringly controversial than would seem to have been the case. Looks like the readers are way ahead of me!*

Dear Jim,

As you'll recall we had a blood donation drive at the Kansas City world SF convention. As a result of Robert Heinlein's efforts, more and more science fiction clubs and convention committees are now interested in blood donation and recruiting donors.

Robert's idea is that most lodges and clubs are associated with a "favorite charity": the Shriners with crippled children, that kind of thing, and that the science fiction community is now sufficiently mature that we ought seriously to give some thought to adopting our own. He suggests that encouraging voluntary blood donations would be appropriate for us—and he's right. Not only is the cause championed by our first Grand Master, but it is an organ-transplant technology; something which is both technological and needed.

In fact, the records show that science fiction fans and writers already donate blood at well over twice the national average rate, so we've made a fair start. With the highly successful blood drives at the 1976 Westerncon and Worldcon, the continuing efforts at recent regional conventions, and Mr. Heinlein's encouragement, we seem well on the way to a tradition—one that I hope will catch on. I hate needles, but as the first one through the line at the Westerncon I can assure everyone that it's at worst unpleasant—and that's a small price.

Jerry Pournelle

DIRECTIONS

To the Chief Panda:

Having finally read Stephen Hawkins' article on black holes, I believe I've found an error! I can see how pair formation would cancel rotation, and any electrical or magnetic charge. (Remember monopoles?) But I cannot see how this can result in loss of mass, as even antiparticles have positive mass. Now that I've said that, I'd like to set up for my gun practice all those physicists who say relativity breaks down in the singularity. Just because they can't conceive of infinite forces at a point doesn't mean the universe had to respect this handicap!

Brett Bellmore

9750 Burt Road  
Capac, MI 48014

*I believe the physicists regard the concept of infinite-forces-at-a-point not so much as inconceivable as self contradictory—and thus paradoxical. Now a paradox can be used to demonstrate any conclusion for which it is a premise: a theory which can prove anything can prove nothing. Thus the breakdown of physicists in the region of a singularity.*

Directions

235 E. 45th St.  
New York, New York 10017

Dear Mr. Baen:

I greatly enjoyed your editorial in the December *Galaxy*. This agrees with my own personal philosophy, as did the remarks made by Dr. Pournelle in "A Step Farther Out."

I have enjoyed almost every story to be printed in *Galaxy* during the two years I have subscribed to it. Particularly I enjoyed *Sign of the Unicorn*, *The Hand of Oberon*, and *Inferno*. I hope that you will continue to print such epic SF and fantasy. I also hope that you will continue to print important science fact such as Dr. Pournelle's interesting articles and Paul Anderson's "Our Many Roads to the Stars."

Finally, I enjoy Geis's dialogues and Spider's attacks on the Hax of Terra. I hope that these features will survive for a long time and that Geis never wins his 10th Hugo

155

(he said somewhere, SFR I believe, that he sold his soul to the devil in return for 10 Hugos).

Sincerely,  
James K. Woosley

Rt. 2, Box 134  
Caneyville, Kentucky 42721

Dear Ben Baen:

I had my last final exam today so when I felt like staying up late rather than sleeping I needed something to do. What I ended up doing is rereading all of Spider's columns for the last eight months or so. This tells me that they are very good reading. Therefore, along the line of readers demands to editors I would suggest that you at least triple the amount of book reviewing wordage you ask him for (pay him more too). This brings up the problem of where Spider is going to find the time to write his own stuff if he is constantly reading and reviewing. I have an answer. It is I don't know. That's his problem. I am just making an (unreasonable?) demand. But I will say qualitywise that I never reread his short stories (sorry, I only find them good, not very good or great like his reviews).

There, I am done. I hope you are planning to publish the fifth Amber book (*The Courts of Chaos*) when Zelazny finishes it. Also let Freff do the illustrations (three covers would be about right).

By the way, I voted for neither Geis or Alter because I think they are best together and that wasn't on the ballot. I demand a revote with a fair ballot.

Thank you very much for whatever,  
Rudolph G. Kraft, III

4683 Dickson  
Cornell, N.Y. 14853

Ben?

One for Spider:

Dear Spider,

This is the second letter I've written you. That frightens me somewhat. I am the letter-writing type, but I usually manage to

156

restrain myself when it comes to the likes of book reviewers and editors. I'm not much of an activist, I guess. A long preamble to thank you for stirring me to action.

The mail that takes this letter out will take another to SUNCON (or whatever the hell that thing is called) asking about voting rights and such. Score one for your column. It is a little chafing to think that 600 people pick the Hugos and less than that pick the Nebulae.

Again thanks. I get tired of my own apathy, but it's such an easy habit. But that's not what I came to tell you.

What it's all about really is I wanted to keep stroking your ego for the beautiful job you're doing in *Galaxy*. As book columns go, I figure you're in a tie with Lester Del Rey for knowledgeability (knowledge + ability) and slightly ahead for practicality. You tell me things I really would like to know about the books. I don't always agree, but then you've never written a column wherein you implied that I had to. For that, undying gratitude.

Let's this too-long letter turn overly mooshy, I'd like to point out that *Epoch* wasn't a complete bust. It had a story by Lafferty. Seriously-er, I thought Bishop's "Blooded on Arachne" was a very remarkable story, if only because it had a plot (something he seemed to view as a minor vice) to go with the pretty words. How come there were ads in the SF Book Club for an *Epoch* with Ellison's "Demon with the Glass Hand" and then zilch? That's really a rhetorical question, I guess, born out of frustration.

Keep on doing whatever the hell it is you're doing right. Science fiction and the people involved in it seem hell bent on taking themselves more and more seriously. "If this goes on" it will soon become the most pretentious genre there is. We need all the goofs who are just whacky enough to review the books that are on those funky wire racks in the grocery store along with the good stuff. Keep us honest, man. *Somebody* has to.

Sincerely,  
Ron Nance

**Galaxy**

910 Burch St.  
Ardmore, OK 73401

*And in a more jugular vein...*

My dear sir—

In regard to your column for the September issue of *Galaxy*: I wish you "was" a critic, too; for in that case, there at least might be an improvement in your grammar. To expect your column to be a duplication of the best of F.R. Leavis or Lionel Trilling or T.S. Eliot would be fairly unrealistic. But, in order to legitimate [sic] science-fiction's claim to the attention of the intelligent reader, your column should (one might hope) evince—if not a knowledge of the literary tradition—at least some notion of what (in a fleeting moment of naive optimism) might be called "good writing."

Is this asking too much?

Chris Schneider

*The Spider replies:*

Dear Chris,

Yes: the "intelligent reader" doesn't need to have sf "legitimated" (legitimized?) by pomposity. I have found that anything that cannot be stated informally is likely to be hogwash, and when I'm among friends I like to take off my necktie and scartch where it itches.

Them as is offended are welcome to seek the egress. Hope you hang around, though.

Spider

Dear Mr. Baen,

As a new addict of *Galaxy*, I wanted to let you know I really enjoy your magazine. Also, to my surprise, I find myself interested enough to actually write!

First I'd like to put a vote in for Alter-Ego and Mr. Geis to continue to write a joint column as they have been. Second to Spider Robinson, I am one of those "bookshelf only" SF fans. (not any more) However I disagree with him on one point. My chances of choosing a good book from an SF shelf are about 8 out of 10, if I can find any that I feel are worth reading or that I haven't al-

## SCIENCE FICTION REVIEW



An Informal & Irreverent Science  
Fiction & Fantasy Journal  
Edited & Published by  
Richard E. Geis

Issue #19 features an interview  
with Kelly Freas.

"The Vivisector"—a review column  
by rising-star Darrell  
Schweitzer.

"The Alter-Ego Viewpoint"—  
Alter running rampant on a  
field of bloody books.

"Angel Fear"—an sf & fantasy  
art review column by Freff.

Plus—whatever comes in from  
irregular columnists: John  
Brunner, Ted White, Richard  
Lupoff, George Warren...

And: a new feature—"Alien  
Thoughts"—an extended  
editor's diary, by Richard E.  
Geis.

Quarterly/sample \$1  
year \$4/20 years. \$7

SCIENCE FICTION REVIEW  
P.O. Box 11408  
Portland, OR 97211

DIRECTIONS

157

ready read. (8 years of experience sure help) My chances on straight fiction are about 2 out of 10.

Next I had a small objection to the letter of Thomas J. Murn, in the October '76 *Galaxy*. Do you usually print letters from bigots? Until I read Mr. Murn's letter, I wasn't sure what *Dhalgren* was about. In spite of the fact it was verbose I didn't like it, BUT I make no judgments that it is poor SF. I know a few people who did or would like it. Does Mr. Murn read "Doc" Smith?

Lastly, the proportion of serials to columns to stories, etc. in the October '76 issue was perfect. Keep up the good work!

Sincerely,  
Catherine Button

584 Laughlin Road West  
Stratford, Conn. 06497

*I think what you are getting at is not that 80% of randomly selected sf books are worth reading, but that you have exceptionally well developed "reader antennae" and so can score 80% of the time. Not bad!*

Dear Jim,

I am not a Science Fiction Writer. I am not even a wildly participating Science Fiction "Fan". I am, however, a thoroughly entranced, though, for the most part generally frustrated, middle-aged, female Braille reader of Science Fiction.

I have to agree with the blind people who have communicated with Spider Robinson about this. *Galaxy* stands out as a highlight in my monthly reading Schedule. I have enjoyed "Galaxy Bookshelf" for years, first under Algy's Budy's able guidance, and then with Ted Sturgeon manning the helm. I enjoyed them both and was envious of everybody who could sit down and devour all those goodies.

Now Spider's a whole other kind of cat. I feel that he almost literally feels himself to be an extension of his typewriter when writing his column, and I dig that! I also feel he functions on a level of high integrity seldom encountered by anyone outside the pages of SF.

I have seldom been so intrigued by any-

thing as I was by the October issue of *Galaxy*, which contains Jack Williamson's article, "Designing a Dyson Sphere", and Fred Pohl's superb first half of "Gateway". What a fascinating premise!

Though I read the magazine through the day after I got it, I'm saving it so that I can reread the first half of *Gateway* in conjunction with the second half.

Jim, your editorial skill is abundant, and you use it well and consistently. Keep up the good work.

Gratefully,  
(Mrs.) Anne Darche

*I have recently learned that over 10% of Galaxy's "readers" are sightless, or nearly so. I also learned—long ago—that among Galaxy's sighted readers are some of the most warmly enthusiastic and giving people in the world. It strikes me that this is a setup: I propose that Galaxy act as a clearing-house between people who would like to provide science-fiction oriented services for the sightless and those who would like to receive such services.*

*The services might include escorting at conventions and to fan club meetings; reading, either "live" or via cassette; helping to organize (this would probably only be feasible in large cities) fan clubs for the visually impaired, together with a sighted "auxiliary" to provide reading, escort and whatever. Authors could provide a very special service by arranging with their publishers for permission to do multiple cassette recordings of their works for non-profit distribution. Finally, someone must assume the "clearing-house" role: Galaxy will only be able to carry the burden for a limited time. Perhaps some fan club would like to offer its services for this?*

*Those interested in being put in touch with volunteers should wait at least a month before making inquiries. Those wishing to volunteer should write immediately to:*

*Galaxy Magazine  
Volunteers  
PO Box 418  
Planetarium Station  
New York, NY 10024*



*All published correspondence is subject to editing for clarity and brevity.*

## Galaxy

**WE INVITE LETTERS**

*All published correspondence is subject to editing for clarity and brevity.*

**GALAXY/IF S-F MART**

235 East 45 Street  
New York N.Y. 10017

50¢ per word per issue (including name and address) or 3 issues \$1.00 per word. 10-word minimum. Payment with order.

### BOOKS AND MAGAZINES

**FANTASY & SCIENCE FICTION** book for sale. Free lists. Gordon Barker, 35-G Minneapolis Ave., Duluth, MN 55803.

**Out of Print** paperbacks and Paperback Originals—send wants: Chloe's Bookstore, 3600 McKinley, Sacramento, Ca. 95816.

**TRADE SCI-FI. NO MONEY.** Send stamped envelope to: Grant, 9213 Greenwood Lane, Lanham, Maryland 20801.

**BOOK AND MAGAZINE READERS!** Send wants to: S & S Books, 80 North Wilder, G-11, St. Paul, Mn. 55104.

**NEW, Used, U.S., British, SF** paperbacks, hardcovers, magazines, fanzines, comics. Free Lists. Grant Thiessen, 943 Maplecroft Road, Calgary, Alberta, Canada.

**COMMUNAL LIVING DIRECTORY PLUS UTOPIAN NEWSPAPER.** SAMPLE \$1. Storefront, PO Box 1174 G1, San Francisco, Ca. 94101.

**Illustrated catalog of SF-Fantasy Weird Tale** Books, 100s of titles listed. Send 25¢ for one, \$1 for next 4, or \$2 for 4 consecutive catalogs plus Wolfe's "Fifth Head of Carberus" a \$5.95 clothbound 1st ed Nebula Award winning SF book. Send to: Purple Unicorn Books, 4532-G3 London Road, Duluth, Minn. 55804.



TREK, the leading magazine for Star Trek and SF fans. A professional publication. Sample, \$2.50. STREK, 2500 Pennington, Houston, TX 77093.

EMPIRE, the magazine for aspiring of writers. Fiction, and articles on writing of by Wolfe, Macfarlane, Schweitzer, Bischoff, many more. Offset. 75¢/issue, \$3/year. Checks to: Ron Rogers, Box 774, Christiansburg, VA 24073.

LETS SWAP SCI-FI PAPERBACKS. 8 for 8 plus \$2.00 postage and handling or 8 for 4, postage paid. C. Swedenberg, Box 29, Mooresville, NC 28115.

CLAUSTROPHOBIA fights death, statism and gravity by combining Earth/Space News, L-5 Newsletter, The Immortalist, Individual Liberty and New Libertarian Weekly. (\$64/year separately) + occasional extras. Only \$40/year, \$70/2-year: 5047 SW 26th Drive, Portland, OR 97201.

#### MISCELLANEOUS

DATES GALORE! Meet singles—anywhere. Call DATELINE, toll-free (800) 451-3245.

Adult and family games, conflict, sci-fi, and fantasy games. Send 25¢ for catalogue. GAMES GALLERY, 169 East 61 Street, New York, NY 10021.

WANTED: DOC SAVAGE materials. David Bowley, 1366 Kuahaka Street, Honolulu, Hawaii 96782.

SCIENCE FICTION RADIO DRAMA CASSETTES. Free catalog, details. S-F Products, 5818, Byron, Chicago, IL 60634.

INTERESTED IN SPACE! Make the Future real! Correspondence Club now forming. Send SASE, 50¢ for information. "Interface," Box 37, Altus, OK 73521

LASER FORCE: Join this new organization, for information, and application form, write

Laser Force, PO Box 556, New York, N.Y. 10027.

STAR TREK SHIRTS AND INSIGNIA, for info write: Star-Fleet Uniforms, Box 8, Willow Grove, PA 19090.

STAR TREK FANS! Blueprints of "Enterprise." Technical manual. More! Free details. Galaxy-1, 4416 Stern Sherman Oaks, CA 91423.

TESSRACT. 4-Dimensional Tic-Tac-Toe played on a 4-D hypercube projected onto a 2-D playing board. Twenty page manual and 20 boards, \$2.98. Dept. L, S & M Brent Co., Box 202, Milford, Michigan 48042.

PERSONALIZED ZODIAC RUBBER STAMP: YOUR SIGN, NAME, ADDRESS, PHONE NUMBER! UNIQUE, PRACTICAL! Only \$9.95 Postpaid! NEWTON, Box 339, Dept. GA-77, Interlaken, NY 14847.

MIDAMERICA: Poker players from fifth floor, Muhleback, contact Mike Smith, 253 Stafford, New Orleans, LA 70124 to make plans for SUNCON in 1977 or just to maintain contact.

SURREALISTIC SCI-FI MUSIC "AR-RAKIS" Synthesizer sizzards, on C60 stereo cassette. Send \$4.95 to John Willoughby, 517 S. Palm Dr., Brea, CA 92621.

Play Chess? Play by mail. 53—two opponents. Worldwide Chess, 351 N. Woodlawn, Mapleshade, N.J. 08052.

SF RADIO SHOWS on cassettes, 8 track, reel to reel tape. Catalog 50¢. Satellite, Box 65012, Miami, Florida 33165.

COMPUTERIZED BIORHYTHM graph and tables with explanation. Have advance knowledge of your best days and critical days. Calculated for 12 months following receipt of order. Send \$3.50 and birthdate to Computer Graphics, Box 126, West Long Branch, N.J. 07764.

#### GALAXY

## Why not? Take 4 for \$6 now WITH MEMBERSHIP IN THE SCIENCE FICTION BOOK CLUB

2915. Star Trek Star Fleet Technical Manual. Compiled by Franz Joseph. A must for all Star Trek devotees. Taken from the data banks of the master computer, it includes the Articles of Federation, the Klingon and Organism Peace Treaties, and much more. Long line paperback. Varior binder. Pub. ed. \$9.95

6017. Mithras. By Phil Ardour. An exciting look at intragaic war and political intrigue. Pub. ed. \$7.95

6332. The Hugo Winery, Vol. 1 & II. Cont 21-1 volume of 23 award-winning stories. 1965 to 1970. Author introductions. Pub. ed. \$15.45

6466. Starlight: The Great Short Stories of Africa Bester. All 8 top stories from two top-notch Bester collections, including an interview with Isaac Asimov. Author's introduction. Pub. ed. \$15.95

1412. Imperial Earth. By Arthur C. Clarke. Explored with adventure and imagination by Fritz Leiber. Duncan MacIntyre plans to achieve an invention that threatens his honor and his own life. By Hugo, Adler and Melina winning. Special Edition

8037. Apollo. By Jack Vance. Stories. Martin Ellison. Short stories and novels, 40 in all. Expensive and language may be affected. Pub. ed. \$12.95

6666. Starlight: The Great Short Stories of Africa Bester. All 8 top stories from two top-notch Bester collections, including an interview with Isaac Asimov. Author's introduction. Pub. ed. \$15.95

8312. Three to Bessel. By Gordon R. Dickson. A brilliant imagination and brilliant imagination. The Hugo and Nebula winners. Special Edition

4663. Mithras. By Phil Ardour. An exciting look at intragaic war and political intrigue. Pub. ed. \$7.95

7310. Universe 7. Terry Carr. 8 top stories from two top-notch Carr collections, including an interview with Isaac Asimov. Author's introduction. Pub. ed. \$15.95

1784. The 1874 Annual. World's Best SF. Donald W. Keith. A brilliant imagination and brilliant imagination. The Hugo and Nebula winners. Special Edition

7773. Children of Babel. By Frank Herbert. Second in a series of Hugo and Nebula award-winning books. One of the first volumes of this outstanding series. Pub. ed. \$8.95

7328. Shogun in the Far East. By Robert Silverberg. In the year 1912 a great power is destroying the world. One of the first volumes of this outstanding series. Pub. ed. \$8.95

7682. Mithras. By Phil Ardour. An exciting look at intragaic war and political intrigue. Pub. ed. \$7.95

4536. The Book of Shards. The Adventures of Eric Slaughter. By Isaac Asimov. A brilliant imagination and brilliant imagination. The Hugo and Nebula winners. Special Edition

6344. The Best of Edgar Allan Poe. Edited by Leigh Brackett. Ed. 21. A brilliant imagination and brilliant imagination. The Hugo and Nebula winners. Special Edition

7682. Mithras. By Phil Ardour. An exciting look at intragaic war and political intrigue. Pub. ed. \$7.95

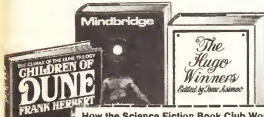
7682. Mithras. By Phil Ardour. An exciting look at intragaic war and political intrigue. Pub. ed. \$7.95

6320. A World Not of Time. By Larry Niven. A brilliant imagination and brilliant imagination. The Hugo and Nebula winners. Special Edition

5637. Epoch. Robert Silverberg and Roger Elwood. Vol. 1. Contains a complete world of Jack Vance. First original stories by other distinguished authors. New. Bantam, Publ. ed. \$10.95

6320. A World Not of Time. By Larry Niven. A brilliant imagination and brilliant imagination. The Hugo and Nebula winners. Special Edition

6320. A World Not of Time. By Larry Niven. A brilliant imagination and brilliant imagination. The Hugo and Nebula winners. Special Edition



#### An Extraordinary Offer

What a way to get acquainted with these science fiction greats. Browse through the list of books on this page and choose any 4 for just 10¢. It's the most extraordinary sample of science fiction ever offered in one package.

#### How the Science Fiction Book Club Works:

When your application for membership is accepted, you'll receive your introductory package of four books for just 10¢, plus shipping and handling. You may examine them in your home, and if not completely satisfied, return them within ten days — membership will be cancelled and you'll owe nothing.

About every 4 weeks (14 times a year), we'll send you the Club's bulletin, *Things to Come*, describing the 2 coming Selections and a variety of Alternate choices. If you want both Selections, you need do nothing; they'll be shipped automatically. If you don't want a Selection, or prefer an Alternate, or no book at all, just fill out the convenient form always provided, and return it to us by the date specified. We try to allow you at least ten days for making your decision. If you do not receive the form in time to respond within 10 days, and receive an unwanted Selection, you may return it at our expense.

As a member you need take only 4 Selections or Alternates during the coming year. You may resign any time thereafter, or remain a member as long as you wish. At least one of the two Selections each month is only \$1.98 plus shipping and handling. Other extra-value Selections are slightly higher but always much less than

Publishers' Editions. Send no money. Mail coupon today.

#### Science Fiction Book Club

Sept. 1, 1948, Garden City, N.Y. 11530 Please accept me as a member. I agree to the membership plan as described above. Send me, as beginning, the 4 books whose numbers I have indicated below. I agree to take 4 additional books at low club prices in the coming year, or may resign anytime thereafter. SFC books are selections for mature readers.

Mr. _____	_____
Mrs. _____	_____
Mrs. _____	_____
Address _____	Apt. # _____
City _____	State _____ Zip _____

The Science Fiction Book Club offers its own complete hardbound editions sometimes enlarged in size to fit special presses and save members even more. Members accepted in U.S.A. and Canada only. Canadian members will be serviced from Toronto. Offer slightly different in Canada.

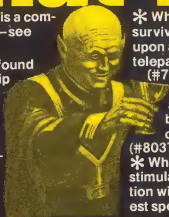
If under 18 percent must sign, and not valid without signature

# What if?

\* What if God is a computer? (#8532—see other side)

\* What if you found yourself on a trip to Earth in the year 2276? (#1412)

\* What if The Foundation Trilogy is true? (#6221)



\* What if mankind's survival depended upon a hairy little telepathic creature (#7682)

\* What if aphrodisiacs become weapons of war? (#8037)

\* What if? *Why not*—stimulate your imagination with the world's finest speculative fiction?

## Why not?

Take 4 Science Fiction Bestsellers for 10¢ with membership

Cut along line and mail — no postage necessary!

First Class  
Permit No. 1  
Garden City, N.Y.

### BUSINESS REPLY MAIL

No postage stamp necessary if mailed in the United States

Postage Will Be Paid By—

**Science Fiction Book Club**

Garden City  
N.Y. 11530



See other  
side  
for a  
complete  
selection